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JORDAN ON INVESTMENTS

BY
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INVESTMENT PROBLEMS
PRACTICAL BUSINESS FORECASTING

COMPLETELY REVISED EDITION

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THIS BOOK IS RESPECTFULLY DEDICATED
TO
PROFESSOR CHARLES W. GERSTENBERG
GIFTED AUTHOR, DYNAMIC
TEACHER, AND DEVOTED FRIEND

PREFACE

THE present edition of this book is a complete revision of the original text written in 1919. At that time the purpose of the author was thus stated:

"A serious attempt is made in this book to present the subject of Investments in a manner both simple and reasonably complete. The field, however, is too intricate to permit the entire elimination of technical terms, and too broad to permit the inclusion of all the different classes of investments in a work which aims to be an introduction to investment principles rather than an exhaustive treatment.

"The book was written for the use of investors and of persons professionally engaged or about to be engaged in investment work. The average investor will possibly find herein several theoretical chapters, such as 'Mathematics of Investment,' which he may deem advisable to omit entirely. On the other hand, such a reader will probably be interested in the chapter, 'Reading the Financial Page,' which deals with an intensely practical part of the subject.

"Those who are professionally engaged in investment work will doubtless feel that parts of the book are somewhat elementary. The author trusts that these readers will find the book as a whole worthy of careful perusal, since he confidently believes that the work contains a greater amount of investment information than has previously been offered in a single volume."

The popularity of the book in the field of Investment

Banking has encouraged the author to offer a new edition almost completely rewritten.

Literature on this subject, which was quite limited at the time of the earlier edition, is rapidly increasing. The writer freely confesses his great debt to other writers in this field, such as Chamberlain, Lyon, Meade, Dewing, Gerstenberg, and Lagerquist. Particularly should be mentioned in this connection the anonymous members of the Investment Bankers Association of America who are responsible for the splendid reports issued by the Association on various phases of Investment Banking.

For whatever there is in style to commend itself to the reader of this book, the author is grateful to the British economists. The brilliant Hawtrey who charms by writing, "Like an umbrella and unlike a buttercup, money may be defined by stating the purpose it serves," and the older school of men such as Smart and Palgrave, express themselves with a clarity and precision which the younger American school finds difficult to match.

The years bring discretion though they may not bring wisdom. Economics is an inexact science. Investments, as one of its applied branches, is subject to no infallible rules. So it is that in this new edition more attention is given to tendencies and less to dogmatic statements. Probably five years hence, should another revision be desirable, this development will be even more pronounced.

New York University,
August, 1924.

D.F.J.

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INVESTMENTS

CHAPTER I

THE INVESTMENT OF CAPITAL

The function of investment.—Investment may be defined as the productive employment of capital. What are the sources of the capital which is thus put to use and who are the users? Capital is created in any community which produces more than it consumes. Capital is properly understood when it is regarded as a synonym for savings. The surplus productivity of a community measures its saving capacity and becomes the capital which is available to assist in further production. As all productive effort requires the investment of a certain amount of capital, ranging from a few dollars in the case of the corner shoe-repair shop to literally billions of dollars in the instances of the giant industrial corporations, it is evident that the saving capacity of a nation plays an important role in its economic development.

Investment banking is that field of commercial endeavor which deals with the transfer of capital from those who have it and are unwilling directly to employ it in production, to those who are more able and willing so to utilize it. Investment banking differs from commercial banking in many ways. Both deal with the loaning of funds but the commercial banker specializes in short-term credits and the investment banker in long-term credits. Credits handled

by the former never exceed one year whereas the credits handled by the latter usually exceed ten years. Commercial bankers supply temporary accommodations, such as seasonal needs; investment bankers provide permanent capital. Investment bankers perform the service of finding profitable employment for the savings of investors and thereby providing capital for the requirements of the productive enterprises.

Users of capital.—For the purposes of the present study consideration is given chiefly to the great public and private enterprises of the country which are continuously seeking the commitment of the funds of investors. The Federal, State, and local governments comprise the public group and the various classes of private corporations form the other. The funds secured are used either as “fixed” or as “working” capital. Fixed capital represents permanent assets, such as land and buildings, machinery and equipment, and furniture and fixtures. Working capital represents amounts carried either in cash, or current accounts receivable, or in inventories.

The annual demand for new capital in a rapidly growing country such as the United States is surprisingly large. Estimates as to the total are generally conservative and are usually made in accordance with the available capital rather than based upon an independent study of actual requirements. A case in point is that of a well-known utility company which could profitably expend one billion dollars in expansion during the next decade, but which will be fortunate to secure one-half of that amount. In 1927, one authority gave the estimated needs of the American railroads for new capital, not including the payment of maturing obligations, at eight billion dollars for the following ten years. The public utilities require over a billion dollars yearly, and the industrial companies easily as

much. Private building requires well over a billion dollars annually. The yearly needs of the Federal, State, and municipal governments approximate another billion dollars. Foreign borrowers seek upwards of another billion dollars annually. Another billion dollars for agricultural development gives a total of over seven billion dollars as the aggregate new capital requirement annually in the United States.

Population increase is but one method of estimating the rate of growth of the country. The rate of increase in population is less than two per cent yearly, which corresponds naturally to the rate of growth of agricultural production. But records show that general industrial production has an annual growth of four per cent compounded. The rate of growth of one large class, electrical power companies, is no less than 10 per cent per annum. As in the past, if these rates of growth are to continue, new capital must be constantly available.

Sources of capital.—The enterprise which seeks additional capital must procure the funds from external sources if internal revenues are inadequate for the purpose. Some enterprises are able to finance expansion by reinvesting in the undertaking the undistributed profits of former periods. The extent to which this practice is possible varies with the nature of the business, the volume of earnings, and the policy of the management. The more usual method is to seek the new capital from outside sources.

The providers of funds are the people at large, either as individual investors, or collectively in the form of banks, insurance companies, and private corporations. The source of the funds is the same, whether the investors act individually or collectively. The surplus which remains out of total income after living expenses have been paid represents the contribution of the individual whether made

directly by personal commitment, or indirectly through deposit with a bank or insurance company.

The influence of the small saver may too easily be underestimated. Savings accounts in the various banks of the United States in 1929 aggregated over \$20,000,000,000, practically all of which was in investment securities. The average per capita for the country was about \$175 and varied from \$45 in the Southern States to \$405 in New England. The general statement probably holds true that out of an annual average income of about \$80,000,000,000, the American people save and thus make available for seekers of new capital, about ten per cent, or some \$8,000,000,000. And probably one-third of this total is provided from the aggregate savings of those with limited incomes.

As a consequence of this condition, it is almost a truism to say that the great private enterprises of the country are owned by the general public. The Pennsylvania Railroad has about 230,000 security holders, and millions more if allowance is made for depositors in banks and insurance companies which own Pennsylvania securities. The same might be said of the New York Central, of the United States Steel Corporation, and of practically all the large companies.

The compensation of capital.—The purpose of the employment of capital in business is the procurement of profits. Profit is measured in terms of dollar difference between cost and sales price in the case of private corporations, and in terms of service in the case of governments. Profits arise, however, from skillful management as well as from the use of capital. Investors, in some instances, make their commitments by buying bonds, which are really loans. New capital is accepted on this basis only when the use of the capital will provide a greater return to the bor-

rower than the fixed amount that must be paid for its use. In other instances, investors make their commitments in the form of stocks which represent proportionate proprietorship. New capital is more freely accepted on this basis, since whatever return is gained from the use of the capital determines the contingent amount that will be paid for its use.

In either case it will be particularly noted that the service which the capital is rendering—the measure of profit derived from its use—is the factor which determines what the reward of the supplier of capital is to be. The investor will receive a certain income, which will be fixed or contingent according to the nature of his investment contract, and which will be large or small according to the degree of risk involved.

The element of risk.—Investment income has two component parts, true income and premium for risk. A certain degree of risk exists in every investment. Prosperity of public and private enterprise is not easily gained nor retained. Even the highest-grade securities may not prove absolutely safe. The bonds of the German Government were regarded as being extremely good in 1912, but were practically worthless eight years later. The return which is obtainable from securities of the highest class—in this country, United States Government bonds—is termed true or pure income. The difference between this rate of return and that obtainable from another less desirable security is known as the premium for risk involved in the latter.

Early in 1930, United States Treasury 4¼'s of 1952 were selling at a price which afforded a return of 3.40 per cent. Concurrently, the General Electric 3½'s of 1942 gave a return of 4.10 per cent, of which 0.7 per cent represented premium paid to the investor as compensation for the greater risk involved in this security in contrast

with the Government bond. Similarly, the buyers of Detroit Edison Refunding 5's of 1949 received a premium of 1.5 per cent included in the total return of 4.90 per cent. Buyers of 'Frisco Railroad common stock received a premium of over three per cent included in the total return of seven per cent. It is interesting to note that 16 per cent of the return on the General Electric bonds, 33 per cent of the return on the Detroit Edison bonds, and 50 per cent of the return on the 'Frisco stock represented premium for risk.

In no investment should the premium for risk exceed the true income, as such a condition reflects too large an element of danger. Stated another way, the total return should not exceed twice the true income. Fifty per cent of the total return is the limit for premium for risk. The application of this limitation to the conditions stated in the preceding paragraph would indicate that a return of eight per cent would be the largest that might safely be sought from investments. The interpretation would not conversely be that all securities returning eight per cent or less were satisfactory. Further analysis would be necessary in such cases, but futile if the return was over 8 per cent. Conservative investors rarely purchase securities if the premium for risk exceeds one-half of the true income.

The rate of true income is not a fixed and unchanging percentage. Interest rates rise and fall with changing conditions of demand and supply in the money market. In 1904, the pure income rate was 3 per cent; in 1920, it averaged about 5 per cent; in 1924, it was 4 per cent; and in 1929 was about $3\frac{1}{2}$ per cent.

Investment and speculation.—Investment has previously been defined as the productive employment of capital. While this statement generally holds good, not all commitments for productive employment are investments in the

more restricted sense of the word. If the degree of risk is relatively small, the commitment is regarded as a true investment, but if the risk is large, the commitment is considered to be a speculation. In an investment, the primary purpose of the investor is to derive income from return on principal; in a speculation, the main object is to profit through appreciation of principal. In an investment, the rate of return is regular and limited; in a speculation, it is irregular and unlimited.

No single factor makes a commitment an investment. The form of the security is not the only test, nor is the purpose of the investor, nor the degree of risk, nor the reputation of the issuing party, nor the physical assets, nor the earning power, nor the popularity of the security, nor the security of a mortgage. The test is the existing combination of these features. If the purpose of the investor is primarily to derive regular income, if assets are adequate to insure safety of principal and earning power is sufficient to assure regular payment of income, if the rate of return is not unreasonably large, if the issuing party has a good record in meeting past obligations, and if the security can be readily sold at a fair price, the commitment is truly an investment. Under opposite conditions, the commitment is a speculation.

The dividing line cannot be sharply drawn. The combination mentioned exists in varying degrees in all securities. Some are undoubted investments; others are outright speculations; and many are in between. The position of the individual investor is an external factor of importance. A large class of securities, known as "business men's investments" are more truly speculations to the average person. Opinion plays an important part, since the yardsticks by which investment values are measured have been thus far none too perfectly developed.

Productive employment.—The investor should be assured that the capital which he advances is to be productively employed. This concern is but natural. In the final analysis the security of both principal and income depends upon the service which the capital is rendering. If the capital is not productively employed, the payment of income will be fairly difficult and the payment of principal at maturity extremely difficult. Defaults are more likely when payment must be made from sources other than the service the invested capital is rendering. On the other hand, if the capital is being productively employed, it should earn enough to pay the annual income charge and repay the principal at maturity. Securities issued by a corporation for the purpose of financing an expansion to its plant to meet an increased demand for products or services is a favorable illustration; securities issued by a foreign nation to balance a poorly determined budget constitutes an unfavorable example.

The income objective.—The primary purpose of the investor should be to receive regular income rather than to profit through appreciation in principal. Traders in stocks on the various exchanges are “investors” only in the popular sense; in reality they are simply speculators, since they continuously buy and sell and endeavor to profit through price differences. The income which may be received from a given security during its lifetime may be foretold with a high degree of accuracy. The investor who purchases General Electric 3½'s of 1942 is quite certain to receive \$35 each year. But the person who buys the same bonds in the hope of reselling later at a higher price, can in no way foretell what the market value will be at any given time in the future. It may be higher or it may be lower. The second man speculates on the favorable outcome of an uncertain development. The first man invests

to take advantage of a definite development. Obviously, the degree of risk assumed by the speculator is large, whereas the degree assumed by the investor is small.

A true investment.—A true investment may now be defined as a commitment of capital

1. For use in production;
2. Entrusted to the management of another;
3. For which the primary purpose of the capitalist in making the commitment is to receive income by reason of the use in production; and
4. In which the estimated risk for use in production is not so great that the premium for risk is greater than the true income.

CHAPTER II

CHARACTERISTICS OF BONDS

Bonds are loans.—In the field of investment, bonds are instruments which are evidences of debt. In the form most frequently found, bonds are issued in denominations of \$1,000, bear a fixed rate of interest, have a definite maturity date, are secured by a mortgage under which physical property is pledged for payment, and are issued as component parts of a loan for a large amount. Variations from this ordinary custom are employed in different issues. The denomination may be \$100, \$500, or \$10,000. The bonds may be issued in perpetuity. The bonds may be unsecured promises.

As a bond represents a debt, bondholders are therefore creditors of the issuing party. As creditors, they have simply made a loan which they expect will be paid according to the agreement. The intention of the bondholder is not to share in the general commercial risks of business. One reason why municipal bonds are generally preferred to corporate bonds is the fact that governments are not subjected to the risk of loss that constantly confronts private enterprise.

The position of the bondholder is usually secure. His income is fixed and relatively certain. His risk is small as he has a prior claim against assets valued well above his loan. Default in the payment of interest or principal permits immediate foreclosure of the securing mortgage. The property may be sold forthwith and the proceeds distributed among the bondholders.

Mortgages, debentures, and collaterals.—Bonds may be divided into three classes according to the nature of the security. A *mortgage bond* is one which is secured by the definite pledge of physical property valued higher than the amount of the loan. The great bulk of corporate bonds are mortgage bonds. A *debenture bond* is one which is usually an unsecured promise to pay. Only borrowers of high credit standing, such as governments and very prosperous corporations can borrow on this basis. A *collateral bond* is one which is secured by the deposit of other bonds and stocks. This form is employed chiefly by financial companies which do not have physical property to mortgage.

A note is a term applied in many cases to bonds. Notes are generally for short terms, yet ten and twenty year notes are not uncommon. Notes ordinarily do not have mortgage security, yet all equipment notes are so protected. Bonds secured by collateral are customarily called collateral trust notes.

Corporate mortgages.—Corporate mortgages are a development of the ordinary real estate mortgage which is simply a conditional transfer of property. The basic form is unchanged. It is much longer, owing to the necessity of describing in detail the various corporate properties and of listing numerous special covenants. Beyond this, the chief difference is that the mortgage itself is not sold directly to investors, but rather is deposited with a trustee and against it units of interest in small denominations are issued. The Baltimore and Ohio First Mortgage, due in 1948, is for \$165,000,000. The mortgage is deposited with the United States Trust Company in New York. The bond which the investor receives does not even give a summary of the mortgage but merely states that it is one of a series secured under the deposited mortgage.

The mortgage usually gives the right of foreclosure for

default in payment of either interest or principal. It may or may not contain an "after acquired" clause under which property acquired after the date of the mortgage is included in the pledge. It may or may not provide for partial payment of income taxes by the corporation under a "tax-free covenant."

Closed and open mortgages.—*Closed mortgages* are those under which no further bonds may be issued. The Consolidated Gas (Baltimore) General 4½'s of 1935 constitute such an issue. Investors usually prefer closed mortgages as they are insured against future issues with equal claim against the pledged property.

Open mortgages are those under which further bond issues are permitted under an outstanding mortgage. Bondholders are protected by special covenants under which a promise is made that future issues should not injure their position. In 1921 one-third of the authorized issue of Baldwin Locomotive First 5's of 1940 remained unissued. These bonds could be issued only for additions and improvements to the corporate property at not over 75 per cent of actual cost. The unissued bonds of the Colorado Industrial First 5's of 1934 can be issued only to retire prior liens. Additional bonds of the Northern States Power First 5's and 6's of 1941 can be issued only if net earnings are at least twice the bond interest. It is interesting to note that additional Commonwealth Edison (Chicago) 5's and 6's of 1943 can be issued without limit provided the purpose is the payment of expansions up to 75 per cent of cost.

The modern practice undoubtedly leans toward the open mortgage. Provided the interest of the old bondholders is adequately protected by covenants such as those mentioned, investors will find little or no advantage in preferring closed mortgages. The largest issues of the great railroad systems are of this type as illustrated in the series issues of the Penn-

sylvania, New York Central, Southern, and St. Paul. Under the open mortgage, new property of high productive value is constantly being added, thereby strengthening the position of the old bonds; closed mortgages seldom have a lien on new property and the old property gradually declines in value because of depreciation, deterioration, and obsolescence. The marketability of open mortgage bonds increase with new issues; the market for closed mortgage bonds declines with the tendency for new owners to "salt them away."

First and second mortgages.—A *First Mortgage* is one which has first claim against the pledged property. As there is usually a wide margin between the value of the property and the amount of the first mortgage, mortgages having a second claim are sometimes arranged. In the railroad field where the security of the mortgage bondholders is the earning power of the property rather than the tangible assets, mortgages beyond the second are not uncommon.

Not all bond issues which include the term "First Mortgage" in their appellation may so be considered, however. The Baldwin Locomotive First 5's issue of 1940 is a true first mortgage as no prior liens apply to any part of the corporate property. The Colorado Industrial First 5's of 1934 deserve the title less since a prior claim in the form of the bonds of a subsidiary company, the Colorado Fuel & Iron Co., exists against part of the corporate property. The first mortgages of parent companies are usually subject to prior liens of the bonds of subsidiary operating companies. Such mortgages have a first claim against the property of the parent company only.

First Refunding Mortgages are seldom first mortgages. The expectation is that bonds of this series will be issued to pay off the prior liens, for which purpose an adequate

number of refunding bonds is reserved. In theory, at least, the refunding bonds gain the prior lien upon the redemption of the outstanding issues. In practice, experience has shown that companies are not always consistent in this regard. The Buffalo General Electric First 5's and First Refunding 5's both mature in 1939. The use of the word "First" in this instance is justified only upon the frail basis that it was the first time a refunding issue was put out. The word "First" helps the marketability of a bond, but the investor should ascertain whether it means "First Mortgage." In this case the "First" Refunding Mortgage is really a second mortgage and under the terms of the issue will never be a first mortgage.

First and Refunding Mortgages are partially first mortgages. In reality they are first liens on certain property and junior liens on other. The Adirondack Power & Light First and Refunding 6's of 1950 have a first mortgage against the property of the Mohawk Edison Co. but a second mortgage against the property of the Adirondack Electric Power Corporation.

First Consolidated Mortgages are usually junior liens. Investors naturally prefer first mortgages and the use of the term "first" in connection with junior mortgages seems a device to deceive the unwary. The First Consolidated 5's of 1939 of the Atlanta Consolidated Street Railway are subject to the prior lien of the Atlanta Street Railroad First 6's of 1930. The First Lien and Refunding 5's of 1942 of the Bethlehem Steel Company are more truly a third mortgage, being subject to both the Purchase Money 6's of 1998 and the First Extension 5's of 1926. The First Lien Refunding 5's of 1957 of the Hudson and Manhattan Railroad are subject to the New York and Jersey First 5's of 1932 and to various equipment issues and real estate mortgages.

It has been noted that corporations are reluctant to number mortgages after the first. Second or succeeding mortgages are termed either first refunding, or first consolidated, or general, or improvement, or development, or such nominal title. The investor should appreciate that, generally speaking, no mortgage is a first mortgage, unless so specified in its title, and that even such specification is not conclusive. The New York and Erie Fifth 4's of 1928 constituted a rare example of corporate frankness. But these bonds were issued before the Civil War, under a different management of the Erie system. A later issue of Erie bonds, "Prior Lien" 4's of 1996, is subject to no less than sixteen bond issues with priority of claim.

Debenture bonds.—In the restricted sense, debenture bonds are unsecured promises to pay. Practically all government bonds are debentures. Corporations of strong credit rating are able to borrow for long terms without the necessity of mortgaging the property. The General Electric 3½'s of 1942 are a typical debenture bond issue. In the event of default, holders of debentures must institute regular suit for collection. Mortgage bondholders can act more quickly and effectively through the comparatively simple operation of foreclosure.

In rare cases, bonds secured by junior mortgages are termed debentures but this is rather a misnomer. The term is also applied to the securities of investment trusts which pledge a variety of stocks and bonds as collateral under a trust agreement. Such securities might more consistently be termed collateral trust notes. The Canadian Pacific has an issue of so-called debenture stock which is really a bond issue.

Corporate debenture bonds, as a class, are the weakest form of bonds. They simply rank ahead of the capital stock both as to earnings and assets in case of liquidation.

They should be purchased only with caution and only when issued by companies of great financial strength. Government bonds, all of which are debentures, are usually excellent securities, but, as is explained elsewhere, are subject to analization different from that of corporate bonds.

Collateral bonds.—Collateral bonds, better known as collateral trust notes, are bonds which have pledged as security for the payment of interest and principal other stocks and bonds. The theory is that the principal of the investor is protected by the deposit of securities having a value in excess of the total of the issue, and the income is protected by having the income received from the deposited securities in excess of the interest requirement on the collateral trust notes. In practice it sometimes happens that the market value of the collateral is less than that of the notes and also that the income from the collateral is not sufficient to pay the interest on the notes. Of course, the issuing company is primarily liable irrespective of the collateral pledged, yet such responsibility can not always be relied upon and the investor should base his judgment almost entirely upon the value of the collateral.

Collateral trust notes are used chiefly in the public utility field, owing to the prevalence of financial holding companies. A good illustration is afforded in the case of the Fifth Series Collateral Trust 5's of the Railway and Light Securities Co. (Boston), a Stone & Webster subsidiary.

Collateral trust notes, despite a favorable record, do not commend themselves to the average investor. Each of the deposited securities must be subject to separate analysis before an intelligent estimate can be made of the value of the collateral trust notes. These notes should be bought only when an impartial analysis reveals an adequate margin of safety both as to principal and interest.

Equipment trusts.—Equipment trusts are variously

known as car trust and equipment trust bonds, notes, and certificates. They are in reality prior lien claims against the cars and locomotives of railroad companies. Two methods are employed in the issue of these bonds, one termed the Philadelphia plan and the other the Conditional Sale plan. *etc.*

Under the Philadelphia plan, the obligations are called certificates and are secured by title to the equipment and by a contract of lease to the railroad. A trustee acts for the holders of the certificates. The certificates are either certificates of beneficial interest or are shares in an association formed for this purpose. The income on the certificates is termed "dividends" rather than "interest." The railroad company which leases the equipment guarantees payment of principal and dividends. The Philadelphia plan was devised to permit the issuing of equipment obligations in those States which prohibited conditional bills of sale. *bonds or notes*

Under the Conditional Sale plan, the obligations are called bonds or notes and are the direct promises of the railroad company, secured by a prior lien on the equipment. Full title to the equipment does not pass to the railroad company until all the notes have been paid. From a practical viewpoint, both plans offer an equal amount of security to the investor. *direct*

An illustration is offered in which a purely hypothetical transaction is explained. The New York Central orders 100 locomotives from the American Locomotive Company, costing \$50,000 each, or a total of \$5,000,000. The locomotives are delivered to the railroad company and the invoice is sent by instruction to the Guaranty Trust Company of New York. The trust company pays the bill, receives title to the equipment, and leases it to the railroad company. As rent, the New York Central pays 25 per cent

of the cost in cash (\$1,250,000) and gives equipment notes for the remainder (\$3,750,000), due in equal annual instalments over the following ten years, and bearing a uniform interest rate of say 5 per cent. The New York Central equipment notes are then delivered by the Guaranty Trust Company to J. P. Morgan & Co., the fiscal agents of the railroad, whereupon the trust company is reimbursed in full. The notes are then sold to investors by the bond house. Upon payment of the final installment, title to the equipment passes to the railroad. This method illustrates the Philadelphia, or lease, plan. Under the Conditional Sale plan, the procedure would differ simply in that a conditional bill of sale rather than a lease would form the basis of the agreement between the railroad and the trust company.

The investor enjoys a high degree of safety. Definite transfer of title does not pass until complete payment, pending which default will result in loss to the railroad of its most valuable property, its rolling stock. Moreover, the equipment is relatively standard and thus could find a ready market if repossession were necessary, and is mobile thus greatly facilitating the transfer. The lack of this mobility has prevented the extension of this plan into other fields. The notes are paid off more rapidly than the equipment depreciates thus increasing the margin of safety during the duration of the notes.

Equipment trusts enjoy a high rating as investments, owing both to their inherent strength and splendid record. Over a period of fifty years there have been but two or three defaults and in but one of these did investors suffer loss. Even in cases of receivership, the invariable custom is to have the Receiver continue the regular payment of interest on the equipment, although concurrently defaulting on the first mortgage bonds. In reorganizations, equip-

ments are honored in full, although senior mortgages are often scaled down.

This class of security has gained rapidly in popularity. In 1900, total outstanding issues amounted to about \$50,000,000; in 1905, \$200,000,000; in 1910, \$350,000,000; in 1915, \$500,000,000; in 1920, \$700,000,000; and now are probably in excess of one billion dollars. The return on equipments compares favorably with that on first mortgages, usually being a little higher, however, owing to relative short maturity. Other things being equal, investors desire long-term securities. It is interesting to note that the equipments of strong roads sell at a higher price than those of weak roads, the difference sometimes being as much as a full one per cent yield. Investors do not seem to appreciate that there is little difference between the strength of the equipments of strong and weak roads.

Special types of mortgage bonds.—The nature of the securing property often gives a special title to mortgage bonds. *Bridge bonds* are mortgage bonds secured by a lien against bridge property. The bonds of the New York Connecting Railroad are secured by a first claim against the Hell Gate bridge in New York harbor which connects the New Haven and the Pennsylvania systems, both of which companies guarantee payment of principal and interest. In a similar manner the *terminal bonds* of the Kansas City Terminal Railway are secured by a mortgage on the Union Station in that city and are guaranteed as to principal and interest by no less than twelve railroad companies which use the terminal. When it is remembered that these companies include such strong systems as the Sante Fé, the Burlington, and the Union Pacific, it may readily be appreciated that the bonds occupy a most favorable position in the investment market. Such bonds are known as joint and several obligations, because the guaranteeing companies

are fully responsible both collectively and individually.

Purchase money mortgage bonds are those secured by a mortgage which has been given in part or full payment for property purchased by the corporation. The mortgage has a claim against the purchased property which is prior to that of any other mortgages placed by the company. It is significant to note that it comes ahead, as far as the new property is concerned, of previous mortgages of the company under the terms of which the old mortgages were to apply to any property "hereafter acquired". A purchase money mortgage is a device which permits the company to issue new first mortgage bonds in spite of the apparent restraining "after acquired" clause in previous issues.

Real estate mortgage bonds are those secured by land and buildings rather than by general corporate property which includes a variety of assets in addition to real estate. A real estate mortgage is a conditional transfer of property given to secure a loan. A real estate mortgage bond is one unit of an arbitrary amount, usually \$1,000, the aggregate of which units makes the full mortgage. The General Motors Building Real Estate Mortgage bonds represent \$1,000 units of a \$12,000,000 mortgage on the large office building of the company in Detroit.

Secured mortgage bonds are those secured by the pledge of special assets. The \$40,000,000 in 8 per cent secured bonds of the Copper Export Association, issued in 1921, were secured by 400,000,000 pounds of refined copper which had a market value of about 12 cents a pound at the time. The security may be a combination of physical assets and stocks and bonds. As previously stated, when the security consists of stocks and bonds exclusively, the instruments are called collateral trust notes.

Reorganization securities.—In the reorganization of a company, the custom is to issue new securities in exchange

for old. The new securities are usually of a special nature to fit the needs of the reorganization plan. Such securities include receiver's certificates, adjustment income, and prior lien bonds.

Receiver's certificates are issued by the Receiver of a company in financial difficulty, to provide the funds necessary to carry on the business during the receivership. As an expense of the receivership the certificates have a prior claim against the assets of the company which are almost invariably worth far more than the total of the issue. The certificates are naturally issued for short periods, seldom if ever exceeding five years. They are highly regarded in the investment field.

Adjustment income bonds are those upon which interest is paid only when earnings are sufficient and when the directors deem such a step advisable. In this respect they resemble a stock more than a bond. The Hudson and Manhattan Railroad Adjustment Income 5's of 1957 afford an illustration. These bonds were issued in the adjustment of the finances of the company in 1913, each holder of one original first mortgage \$1,000 bond receiving one new \$500 First Lien bond and one new \$500 Adjustment Income bond. Income bonds may or may not be secured by a mortgage. Unlike ordinary bonds which are quoted "and interest", income bonds are quoted flat, which means the quoted price includes any interest which has accrued since the last payment date. Again, unlike the usual coupon bond, the coupons on income bonds do not bear any fixed amount payable and do not include any stated date of payment. In some cases, such as that of the Atchison Adjustment 4's of 1995, income bonds gain a high rating, but for the most part they are speculative and should be avoided by ordinary investors.

Prior lien bonds are those which have the first claim

to the property subject to the securities undisturbed in the reorganization. The Erie Prior Lien 4's of 1996 come ahead of the General Lien 4's and Convertible 4's but are inferior to some sixteen underlying bond issues.

Securities of reorganized companies should be bought only with considerable caution. Indeed, this caution is so imperative, that a full chapter on the subject appears later in this volume.

Guaranteed bonds.—Guaranteed bonds are those upon which payment is guaranteed by a company other than the original issuer. The guarantee arises out of a corporate relationship involving a parent and subsidiary company and may also involve a lease, merger, or consolidation. The bonds are variously known as *guaranteed*, *endorsed*, and *assumed bonds*.

Reference has previously been made to bridge and terminal bonds which almost invariably are guaranteed bonds. As part of the rental under its lease, the Lackawanna guarantees payment of the interest on the Morris and Essex First Refunding 3½'s of 2000. Similarly, payment of the principal of the Elmira & Williamsport bonds is guaranteed by the Pennsylvania and of the Rensselaer & Saratoga bonds by the Delaware and Hudson.

The investment position of guaranteed bonds depends upon the responsibility of the guaranteeing company and the value of the underlying property. The strong investment position of the Morris and Essex bonds does not arise from the Lackawanna guarantee but rather from the vital importance of the Morris and Essex property to the Lackawanna system. This fact is clearly evidenced in the case of the Houston, East & West Texas First 5's of 1933. Part of this issue is guaranteed by the Southern Pacific, but the unguaranteed bonds command an equally high price. To retain control of this important link, Southern Pacific

must pay interest on both classes irrespective of particular guarantees.

Sinking fund bonds.—Sinking fund bonds are those for which a special fund is provided for the purpose of repayment. The company agrees to set aside regularly a certain sum, either (1) a fixed amount, or (2) an amount in proportion to earnings, which will be used to redeem the bonds. Not all bonds have sinking fund provisions, but any class of bonds may be so issued. The fund is used to redeem the outstanding bonds (1) by purchase in the open market up to a certain maximum price, or (2) by drawing by lot for advance payment at the maximum price, or (3) by accumulation and redemption of bonds at par at final maturity.

Under the terms of the United States Steel Sinking Fund 5's of 1962, the company set aside \$1,010,000 annually for the purchase of the bonds in the open market at a price not exceeding 110. If the bonds could be bought at this price, the company might by lot enough bonds at 110 to exhaust the fund. It is interesting to note in this case that no registered bonds could be drawn while any coupon bonds were outstanding.

Sinking fund bonds have both advantages and disadvantages. The holder is given a broader market and a somewhat higher price on the entire issue. If his bond is called, he often receives a premium of from five to ten per cent over par. On the other hand, he may be compelled to surrender a desirable security; he must find a channel for reinvestment; and he may have failed to learn that his bonds have been called until months after interest has ceased. ✓

Redeemable bonds.—Redeemable bonds, also known as callable bonds, are those which may be paid prior to maturity date at the option of the issuer. The First Liberty 3½'s are a good illustration. These bonds are not

due until 1947, but may be called for immediate payment any time after June 14, 1932.

Investors usually prefer non-callable bonds. They realize that conditions at a time when callable bonds are being redeemed prior to maturity will not be particularly favorable for reinvestment. Moreover, a callable bond is unlikely ever to sell much higher than its redemption price. And finally, if the investor desires the return of his funds prior to maturity, he has only to sell the non-callable bond in the open market.

Bonds which are called before maturity are almost invariably redeemed at a premium. The usual premium is about six-months interest to compensate the investor for loss of interest while seeking a new security. The premium may be higher, however, as illustrated in the case of the General Petroleum 7's of 1931 (105%), the New York Central Debenture 6's of 1935 (110%), the Goodyear Tire & Rubber First 8's of 1941 (120%), and the Republic of France 5's of 1980 (150%). Holders of redeemable bonds which are selling higher than the call price will often find it advantageous to exchange their securities.

Convertible bonds.—Convertible bonds are those which may be exchanged for other securities of the company, always at the option of the investors. The usual plan is to allow equal par value in common stock, as shown in the case of the Chicago, Milwaukee and St. Paul Convertible 5's of 2014. The conversion ratio may vary, however. The New York Central Convertible 6's of 1935 were convertible into common stock at 105 per cent in par value of bonds for 100 per cent in par value of stock. The ratio in the case of the Baltimore and Ohio Convertible 4½'s of 1933 was 110 for 100; in the case of the Delaware & Hudson Convertible 5's of 1935 it was 150 for 100.

Not all convertible bonds are exchangeable during their

lifetime. The Atchison Convertible 4's of 1960 lost the conversion privilege in 1923. The D. & H. 5's previously mentioned became non-convertible in 1927. So it happens that many so-called convertible bonds are really non-convertible, either because the conversion period has expired or because it has not yet come into effect.

Holders of convertible bonds often lose opportunities to profit, for the simple reason that the conversion privilege causes the bond to sell much higher than it would otherwise. The expiration of the privilege naturally brings a substantial fall in market value. Such was the case with the Atchison 4's in 1923, which dropped from par to 80 at the expiration of the conversion period, and with the Brooklyn Rapid Transit 4's of 2002 in 1914, which fell from 93 to 83. The classic illustration is that of the St. Paul Consolidated 7's of 1905, wherein the holders of \$500,000 in bonds elected to accept redemption at par rather than convert into stock which might immediately have been sold at 170 per cent of par.

Serial and series bonds.—*Serial bonds* are those which are redeemed at regular intervals during the life of the issue. A \$5,000,000 issue of equipment bonds may be issued in serial form, the terms stating that \$500,000 of previously specified bonds will be redeemed during each of ten successive years. This plan is popular in equipment bonds and in real estate mortgage bonds, and in the case of municipal and industrial issues is superseding in popularity the sinking fund plan of redemption.

Series bonds are those which are issued in different series under a single mortgage. The difference is usually in the rate of interest, although it may be in other respects as well, such as maturity date, conversion and redemption privileges, and sinking fund provisions. The purpose is to permit the company to adjust each new issue of bonds under

the mortgage to meet existing conditions in the market. The Pennsylvania Railroad General Mortgage bonds were issued in 1915 as Series A, bearing $4\frac{1}{2}$ per cent, in 1918 as Series B bearing 5 per cent, and in 1920 as Series C bearing 6 per cent.

Perpetual bonds.—Perpetual bonds, also known as irredeemable and annuity bonds, have no maturity date. They represent a permanent loan. The Public Service Corporation of New Jersey has outstanding an issue of Perpetual Interest Bearing 6% Certificates. The Lehigh Valley has an issue of irredeemable annuity bonds which are a perpetual lien on the Company's property and which may not be retired. The famous British Consols and French Rentes are perpetual bonds.

Perpetual bonds are rare in the United States. One finds many bonds due in the twenty-first century, and notes the amusing maturity dates of the West Shore 4's of 2361, the Commercial Cable 4's of 2397, and the Elmira & Williamsport 5's of 2862. But purchasers of these securities are buying income certificates in the true sense of the term. Should the holder desire to regain his capital, he simply sells the security to another investor.

Special bonds.—*Participating bonds* are those which may bear income in addition to the fixed rate of interest. In the case of the Marland Oil 8's of 1931, the bonds were to receive \$10 per \$1,000 bond for each dollar per share per annum in dividends on the stock up to \$4 per share. Participating bonds are extremely rare.

Tax-exempt bonds are those which are exempt from the payment of certain taxes, notably the Federal income tax. Bonds which enjoy this freedom, as do all municipal issues, are popular with wealthy investors.

Stamped bonds are those which have been stamped with some agreement in addition to the original contract. For

example, certain of the Houston, East & West Texas First 5's of 1933 are stamped with a supplementary provision that the bonds are redeemable in advance of final maturity.

Interim bonds are temporary certificates which are given to purchasers of new issues pending the preparation and delivery of the permanent definitive bonds.

Registered and coupon bonds.—A *registered bond* is one upon which the name of the owner appears and of which a corresponding record is kept by the issuer. Interest payments are made by check mailed to the registered owner.

A *coupon bond* is one which is payable to bearer. Interest is collected by the owner by "clipping the coupons" attached and cashing them at his bank. Many bonds are interchangeable at the option of the holder and some may be registered as to principal only.

Registered bonds are safer, but coupon bonds are more convenient and popular. Often the coupon bond sells somewhat higher than the registered bond of the same issue owing to a greater convenience in marketing. This difference is usually slight, but it has amounted to as much as two points on a \$5,000 bond. In the latter case, registration cost the investor a full \$100—probably far more than it could possibly be worth to him.

Ambiguity of bond titles.—From the foregoing discussion the reader can see that the name of a bond does not definitely establish its quality. So-called first mortgage bonds often do not deserve the title. The mortgage bonds of some companies are less desirable than the unsecured debenture bonds of others. Only by careful analysis of each security, rather than by casual observation of its title, can the true investment status be determined. The Canadian Pacific has outstanding some so-called debenture stock which analysis shows is really a bond. Conversely, some Niagara, Lockport and Ontario Power bonds are in effect

junior to the preferred stock, and the Series B issue of the Green Bay and Western railroad debenture bonds is entitled to interest only after 5 per cent dividends have been paid on the common stock. The title of the bond is always of interest but in tests other than that of name must its merit be disclosed,

CHAPTER III

CHARACTERISTICS OF STOCKS

The nature of stocks.— Unlike bonds, which represent the debt of the corporation, stocks represent the ownership. Bondholders are creditors, whereas stockholders are proprietors. The capital of a company is its net worth and represents the equity of the owners. The capitalization is the aggregate of the outstanding stocks and bonds. The capital stock is the outstanding stock.

The capital stock of a company is divided into a definite number of shares, each of which represents a unit of ownership. Certificates are issued to evidence ownership of a stated number of shares. A company may have outstanding capital stock of \$1,000,000 divided into 10,000 shares with a nominal value of \$100 each. An individual may hold a certificate for 100 shares which would have a nominal value of \$10,000.

Under ordinary conditions, stocks do not offer favorable opportunity for investment. Usually stocks represent "business ventures" and as such should be purchased only by those able and willing to assume a degree of risk higher than that which exists generally in the bond field. Yet certain classes of stock enjoy a status only slightly below that of bonds; and in some cases, one class of stocks may be found superior to a class of bonds. Moreover, many individual stocks enjoy a rating much higher than that of individual bonds, quite irrespective of the class in either case.

These are exceptions rather than the rule, however.

Stocks are inherently weaker than bonds. The claim of stockholders to income and assets is inferior to that of all other legitimate claims. Creditors of all kinds, secured bondholders, unsecured merchandise creditors, employees—all must be taken care of before the stockholders. It is only when special favorable conditions obtain that stock deserves investment consideration. The purpose of this chapter is to indicate such conditions.

Par value.—Shares of stock usually have a stated nominal, or par, value. The general custom is to have this par value represent one hundred dollars of ownership. This custom is observed by leading companies such as the New York Central, Commonwealth Edison, and United States Steel. Par value is an arbitrary amount, however, and may be established at the discretion of the company. The Pennsylvania Railroad and Westinghouse Electric use \$50; other companies use \$25 and \$10. Some bank stocks have \$1,000 par, and the old stock of the Cuba Company had the remarkable par value of \$50,000 per share.

Shares of stock may also be issued without par value. As market value is determined irrespective of par value, there is little difference, from the viewpoint of the investor, whether or not a par value is stated. Advantages and disadvantages pertain chiefly to matters of corporate management. Probably it is fairer to the investor simply to state on the certificate that he is the owner of a certain number of shares than to add a nominal value which may differ substantially from market value. When the market value of stock becomes too high for convenient purchase, the company often reduces the market value per share by issuing a larger number of new shares without par value for old shares with par value. This process is called "splitting-up" the stock. It is usually employed when the market value exceeds three hundred dollars per share. At one time the market value

of Eastman Kodak was about \$650 for each share of \$100 par; ten new shares without par value were issued for each old share; the market value of the new stock thereupon became about \$65 per share.

Dividend payments.—The distribution made to stockholders is termed dividends and represents a certain division of the profits as such. The interest which is paid to bondholders is not a distribution of profits in the true sense. Interest is part of the general expense and must be paid before the amount of profit is determined. Except in rare instances, dividends are paid only when earnings are adequate and at the discretion of the board of directors of the company.

Accumulated undistributed earnings must be available before dividends may legally be paid. The income of the stockholder therefore depends primarily upon the earning power of the enterprise and not upon the tangible assets of the company. But not even the existence of such surplus assures dividend payments. The directors must see fit to pay them rather than retain the earnings in the business. Regardless of surplus from former periods, directors are reluctant to pay dividends in excess of current earnings. The presence of a large surplus did not prevent the directors of the Northern Pacific from reducing the dividend rate from 7 to 5 per cent in 1923.

All the profits of an enterprise are not distributed as dividends. A certain part of the earnings is retained either to strengthen financial position or to finance expansion. This practice is called "ploughing in" earnings. Between 1906 and 1922, the Pacific Gas and Electric Company earned \$80,083,000 on its stock and of this paid out \$28,511,000 in dividends. The distribution of such sums is made in the interest of the stockholder rather than directly to him. Some companies, notably the Standard Oil Group, carry

this policy to an extreme. Regular dividend payments are relatively small and ploughed-in earnings are large. At certain irregular intervals, an extra distribution, called "melon cutting," is made to stockholders, usually in the form of additional stock, to compensate for the ploughed-in earnings. Holders of such securities, usually enjoy an appreciation in the market value of their securities, proportionate to the diverted earnings and receive part of their income when they sell their stock, in addition to that received as dividends.

Other firms pursue a different dividend policy. United States Steel endeavors to maintain a fixed rate upon its common stock, plus extra disbursements while earnings are unusually high. Pennsylvania Railroad endeavors to maintain a fixed rate proportionate to average earnings over good and poor years. The smaller companies pay dividends as and when earned and "pass the dividend", that is, fail to pay it, when earnings are poor.

Dividends other than cash.—Dividends may be paid in a form other than cash. *Stock dividends* represent the distribution in the form of new stock of accumulated surplus earnings which have been reinvested in the enterprise. The effect of a stock dividend is simply to divide the units of ownership into smaller parts. *Scrip dividends* represent payment in the form of promissory notes, also called dividend warrants, instead of in cash. *Property dividends* represent a distribution of certain of the assets, usually securities, directly to the stockholders.

Stock dividends are usually paid in large sums at irregular intervals. The 400 per cent distribution of Standard Oil of New Jersey in 1922 is an example. Regular stock dividends are not unknown, however. Some companies pay regular dividends in both stock and cash, as illustrated by International Harvester in 1927.

Scrip dividends are rare. In periods of financial stress, such as in 1920, companies follow the practice to conserve cash and yet to maintain dividends.

Property dividends are likewise rare. Following the close of the World War, many companies paid dividends in Liberty bonds. Union Pacific, compelled to dispose of its holdings in Baltimore and Ohio, distributed the B. & O. securities as a property dividend to Union Pacific stockholders. Great Northern, forced to give up its ore properties, formed a new company, Great Northern Ore Properties, and distributed certificates of ownership as a dividend to Great Northern stockholders.

Subscription privileges and rights.—Stockholders have an inherent right to subscribe proportionately to new issues of stock which they hold before the privilege may be extended to outsiders. This subscription privilege is valuable whenever the market price is higher than the subscription price. In 1924, the American Telegraph and Telephone Company offered to old stockholders the privilege of subscribing for additional stock at par value to the extent of 20 per cent of their holdings. As the market price was then about \$125 per share, this privilege was valuable. Holders who did not desire to buy additional stock should have sold the negotiable "right" which was sent to them for their subscription. Each share of old stock received one right, and five rights permitted subscription to one share of new stock at par. The value of each right would therefore be about one-fifth of the difference between par value and the market value of the stock after the additional 20 per cent was issued. The issue of the additional stock would tend to make the market price fall and would make the value of each right less than \$5, as might be inferred from the stated facts in this instance.

Holders of stocks in many companies, notably in public

utilities such as American Telephone and Telegraph, Consolidated Gas of New York, Commonwealth Edison of Chicago, and North American, have added materially to their income by taking advantage of the various stock subscription privileges which have been afforded to them.

Common stock.—Common stock represents the unrestricted ownership of the company. It is also known as the ordinary stock. Some companies permit different classes of stockholders to enjoy certain privileges such as preferential rights to dividends, but usually restrict the nature of ownership by reason of the preference. In such cases the common stock has the last claim to income distribution.

As common stock has the weakest position of all securities, it naturally does not make an ideal investment security. Yet all common stocks are not to be uniformly condemned. The common stocks of companies such as American Telephone and Telegraph, Pennsylvania Railroad, and General Electric, are usually regarded as desirable investments. In each of the cases named, and in many others, large earning power over dividend requirements and an excellent dividend record over a long period of years, have gained a high investment rating for the common stocks. Again it is pointed out, however, that these are exceptions and that the average person should buy common stocks as investments only with extreme caution.

In 1919 the common stock of the Goodyear Tire and Rubber Company sold for over \$400 per share, with an 8 year record which averaged about 60 per cent earned annually upon the stock. About a year later, the stock was selling for about \$10 per share. New Haven common sold above 200 for many years prior to the World War and then fell rapidly to below 20.

Preferred stock.—Preferred stock is a form of stock which enjoys a certain preference over the common stock.

In all cases the preference is as to dividends and in some cases it is as to assets as well. United States Steel Preferred receives a dividend of 7 per cent yearly out of earnings before any distribution can be made on the common. It should be noted that there is no guarantee of preferred dividends such as exists in the case of bond interest. The preferred dividend is paid only if earned and at the discretion of the directors, and simply enjoys a preference over the common stock in dividend declarations. United States Steel Preferred has also a preference over the common as to assets. In the event of dissolution, preferred stockholders would receive a distribution of assets up to 100 per cent of par value before any similar distribution would be made to common stockholders.

Sometimes a company issues different kinds of preferred stock. Reading has *first preferred* and *second preferred*, under the terms of which the first preferred has a prior preference over the second preferred. Bethlehem Steel once had 8 per cent preferred and 7 per cent preferred, under the terms of which the 8 per cent preferred had a prior preference over the 7 per cent. Some companies give their preferred stock a different term, as illustrated by the *debenture stock* of General Motors and the *special stock* of General Electric. The debenture stock of the Canadian Pacific, however, is in reality a bond rather than stock of any kind. *Class A* and *Class B* stocks are issued both as common and preferred. The difference is usually slight and may be in the rate of dividend, order of preference, or voting power.

Cumulative preferred stock is a term applied to that form of preferred stock wherein the failure to pay the dividend at any regular time results in an accumulation of dividends until all payments in arrears are made up. Until such time as the back payments are made in full, no dividends can be

paid on the common stock. Unless stated to the contrary, all preferred stock is cumulative. United States Steel Preferred is cumulative; United States Rubber Preferred is not. Cumulative dividends do not assure ultimate payment. Holders have witnessed the arrearage on American Hide and Leather Preferred and International Mercantile Marine Preferred grow to exceed the par value of the stock. Purchasers of cumulative preferred stock in arrears receive the right to the back payments.

Participating preferred stock is that form of preferred stock which shares in a further distribution of profits after the regular preference has been paid. Chicago and Northwestern Preferred is entitled to an additional 3 per cent beyond its regular 7 per cent after the common has received 7 per cent. Beyond that point the common receives an additional 3 per cent and then both share pro rata. Westinghouse Electric Preferred shares equally with the common after both have received 7 per cent. This participation feature enabled the preferred to receive 8 per cent in 1924.

Redeemable preferred stock is that form of preferred stock which may be called for payment at any stated time. To compensate the holder for the loss of his security, the redemption price is usually higher than par value. General Motors 7 per cent Preferred is redeemable at any time at 125 per cent of par value. Investors prefer non-callable securities for two reasons: (1) redemption necessitates the trouble of reinvestment, and (2) the redemption price tends to keep down the market price, since investors are reluctant to pay more than the callable price.

Convertible preferred stock is that form of preferred stock which may be exchanged for another form of security at the option of the holder. The usual option is to convert into common stock. The conversion may be par for par or at

a fixed ratio, as in the case of Bethlehem Steel 8 per cent Preferred which required the exchange of 115 per cent par value of preferred for 100 per cent par value of common. The conversion privilege tends to help the position of the stock.

Preferred stocks as a class offer decided investment advantages over common stocks. The preferred issues of certain companies such as National Lead, National Biscuit, American Car and Foundry, American Locomotive, and United States Steel have unbroken dividend records over 20 years and have gained an enviable position. As in the case of common stock, the dividend record and the earning power are the two primary tests. For the 10-year period from 1913 to 1922 inclusive, the preferred dividend on National Biscuit was earned on the average 3.20 times the annual requirement with a ratio of 2.26 in the poorest year. During the same period, National Lead Preferred showed an annual average of 2.22 with 1.44 in the poorest year. Concurrently, United States Steel Preferred showed an annual average of 4.27 with 0.93 in the poorest year. A preferred stock which has its dividend requirement earned on the average three times each year over a 10-year period and at least once during the poor years deserves a good investment rating.

Guaranteed stocks.—Guaranteed stocks are those which have been issued by one company but upon which the payment of dividends is guaranteed by a second company. This practice obtains chiefly in the railroad field. The property of a small road is leased by a larger road. As part of the rental, the operating company guarantees to pay a fixed rate of dividends upon the outstanding stock of the leasing company. In this way a dividend rate of $7\frac{3}{4}$ per cent upon the Morris & Essex Common is guaranteed by Delaware, Lackawanna & Western, and a rate of 7 per cent

on Pittsburgh, Fort Wayne & Chicago Preferred by the Pennsylvania.

The position of guaranteed stock depends upon (1) the responsibility of the guaranteeing company and (2) the value of the leased property to the guaranteeing company. The payment of the guarantee is part of the fixed charges of the guarantor company; consequently the stock is practically a bond issue of the second company secured by a lease rather than by a mortgage. If the guaranteeing company is financially strong and if the leased property forms a valuable part of the total system, guaranteed stock makes a desirable investment. Certainly one finds relatively few securities better than the two mentioned guaranteed stocks, or New York and Harlem Common (guaranteed by New York Central) or United New Jersey R. R. & Canal Common (guaranteed by Pennsylvania) or Rensselaer & Saratoga Common (guaranteed by Delaware & Hudson) or St. Louis Bridge Preferred (guaranteed by an association composed of fifteen important trunk lines owning 25 per cent of the total railroad mileage of the United States).

It is significant to note that in receiverships of guaranteeing railroad companies, guaranteed stock has fared quite well. In the Boston and Maine reorganization and in the Chicago and Alton receivership the holders of guaranteed stock suffered no loss and fared even better than holders of senior mortgage bonds. The receivership of the New York surface traction lines, however, resulted less satisfactorily to holders of guaranteed stock.

Although practically equally well secured, guaranteed stocks enjoy an advantage over corporate bonds, since the dividends are usually exempt from the Federal normal income tax, and bond interest is not exempt.

Book value.—The book value of a share of stock is its proportionate equity in the assets of the company as valued

on the corporate books of account. Book value is determined by taking all assets at the value appearing on the balance sheet, or statement of assets and liabilities, and deducting all liabilities and reserves. The balance, which is the net worth of the company, is divided by the number of shares of stock and the result is the book value per share. If any preferred stock has been issued, the total par value is deducted from net worth before the final division.

Book value as thus determined is said to be the intrinsic value of each share and should thus form a criterion of the market value. Seldom is there an agreement. In 1927 United States Steel Common had a book value of about \$210 per share and a market value of \$140. One might be tempted to say that the value of the assets on the books was grossly overstated, yet there is ample reason to believe that a conservative appraisal would have disclosed an under-valuation. At the same time General Electric Common, with a book value of about \$40 per share, had a market value of about \$130.

The answer is that market value depends upon earning power and dividend record rather than upon asset valuation. In the final analysis property is properly valued, not on a basis of cost less depreciation as is the approved accounting procedure, but on the basis of what it will earn. Stock is valued in the market, not on the basis of the cost of the "backing" assets, but on the basis of the productive power of those assets, qualified by the relative willingness of the management to distribute the earnings as dividends.

Book value has its most advantageous use in the case of bank stocks, where the assets are usually cash or its equivalent. It is also convenient in the case of railroads and public utilities wherein rates are based upon property values. But it is relatively valueless in the great field of industrials, where surprisingly it is most popular.

Liability of stockholders.—The general statement obtains that the liability of stockholders is limited to the amount of their investment. State laws differ somewhat in the degree of liability of a special nature. Holders of bank stock are usually subject to double liability based on par value. Stockholders in many States are liable for wages of subordinate employees to a limited extent. Stock must ordinarily be sold originally for full par value, failing which holders may be held liable to creditors for the balance. Under California laws, stockholders are liable to creditors for their proportionate share of the unliquidated debts of a company. In a technical sense, stockholders are liable to the corporation for losses sustained in operations, as such losses constitute an impairment of capital. In practice, however, assessments are rarely levied against stockholders for operating losses.

Voting power.—The management of a corporation is entrusted to a board of directors elected by the stockholders. The directors select the executives of the company. All stockholders have an inherent right to vote but in many cases this privilege is expressly limited to the common stockholders. Preferred stockholders have vetoing rather than voting power upon matters directly affecting their interest. In 1924 the common stockholders of Wilson & Co. authorized an issue of prior preferred stock to take precedence over the outstanding preferred. Obviously such a move should not be permitted without the consent of the preferred stockholders. In this case the preferred stockholders dissented and the plan was abandoned.

The average investor seldom exercises his power to vote. The privilege rarely adds to the value of the stock. Over a long period, Bethlehem Class B Common, without voting power, sold higher than the regular common, with voting power, but otherwise was identical with the Class B.

Investment trust certificates.—The securities issued by investment companies are variously styled certificates, debentures, notes, bonds, shares, and stock, according to the particular plan under which issued. Irrespective of the title, the securities are in effect collateral trust notes and should so be considered by the investor. The investment company purchases bonds and stocks with the proceeds from the sale of its own securities. These bonds and stocks are usually pledged with a trustee for the protection of the holders of the trust certificates. In some cases, the privilege of substitution of collateral is allowed and in others, is forbidden. As the investment company has no physical assets, the value of its certificates depends entirely upon the value of the collateral.

Investment trusts have had a long and generally successful record in England. Whether the American experience will be equally favorable remains to be seen. It is interesting to note different tendencies. In England, the trusts have broad powers, including full power of substitution of collateral and investment in any field where favorable opportunity seems presented. In the United States, the trusts have limited power of substitution and many operate only in one field, such as rails or utilities.

The advantages offered by these securities may be thus listed:

1. Diversification of risk is gained, especially to the small investor.
2. More intelligent purchasing due to superior facilities of the trust.
3. Tax burden is lightened, as income, usually in dividends, is exempt from normal tax. Estate taxation on stock holdings is greatly simplified.
4. In cases where no power of substitution is granted, holders are fully protected against dissipation of collateral.

5. Where power of substitution is granted, the management may exchange collateral to gain a profit or to avoid loss.

6. Earning power of capital is enhanced through diversification.

7. Valuable assistance to foreign trade in cases where trusts purchase foreign securities.

8. The splendid record of many of the old-established British companies, such as the Robert Fleming group, the Lord St. Davids group, and the C. M. Rose group.

The field has serious disadvantages, however, as may be seen:

1. Diversification may include many poor securities with the good.

2. Skilled management is necessary in purchasing and exchanging securities.

3. Investor of means can make his own distribution of securities more economically.

4. Investment trust certificates have limited marketability.

5. Annual income is uncertain in amount as it depends upon average earnings on collateral.

6. Investors do not have title to collateral and thus cannot act directly to protect their interest in cases of failing companies.

7. When collateral is chiefly stock, great inherent risk is involved. The investment character of the certificates is no better than the investment character of the collateral.

8. When power of substitution of collateral is permitted, such exchange may not prove to the advantage of the investor.

As each type of investment trust differs somewhat from the others, general statements such as the foregoing must be qualified in specific applications. Some pertain mostly to the "rigid" type which does not per-

mit substitution of collateral. Others refer more to the "flexible" type which allows such practice.

CHAPTER IV

THE TESTS OF A GOOD INVESTMENT

Investment quality.—Securities vary in quality. From United States Government bonds which have never known default to stocks upon which dividends are unknown, the range is wide. The investment field has its plateaus of quality even as the cotton market. A good security may be known simply by that rating, or it may deserve higher recognition and be termed "high grade," or it may achieve the investment heights and be classed as "gilt-edge." It may lack the more desirable features and yet be called "medium grade" or "fair." Faint praise does not necessarily condemn in the security field since below the fair securities are found "business men's investments," and "semi-speculative." Lowest of all and beyond the investment realm are the "speculative" securities. One may wonder why all investors do not purchase exclusively in the highest grades. The answer is as in the commodity markets, that buyers are often willing to sacrifice quality to save in cost, especially if they feel that the saving more than compensates for the sacrifice.

The attributes of quality.—The three primary attributes of investment quality are safety, marketability, and taxability. The analysis of any investment should show in a relative sense the security of the commitment, the popularity of the specific issue with investors, and the degree to which a holder is subject to Governmental taxation. And of these the most important is safety.

Safety in its many forms is always the first consideration.

In order that he may gain this most desirable quality, the true investor willingly sacrifices the enhancement in value which normally proceeds from a commitment of funds in a business venture. He does so partly because he is protected, although not always, from the potential loss which accompanies such business ventures, and partly because he is more interested in regular income, limited though it may be, than in fluctuating returns. In the absolute sense, perfectly safe investments do not exist, since all possess some degree of risk. Safety is a relative term and the investor should so construe it. To seek only the securities which enjoy the greatest safety, however, is by no means the wisest policy. One may accept a certain amount of risk and still hold a high-grade investment, and incidentally obtain a greater income than would be obtainable in the safest issues. The reasonable limit to which one may accept risk depends upon the position of the investor. The business man with large commercial interests can assume more risk than the retired clergyman with complete dependence upon investment income.

Marketability is the second consideration. The term implies the power to convert a security into cash at relatively short notice and without the sacrifice which often accompanies a forced sale. True it is that the investor buys for more or less permanent holding and so it might be said that ready salability should not be of particular concern. But the future is always filled with uncertainties. Any of a thousand reasons may develop to make an investor desire to sell, at short notice, securities which he might have purchased to keep. The reason may be personal misfortune, or corporate misfortune, or the plausible wish to take advantage of an opportunity to exchange profitably. As in safety, the term is relative. A fair degree, rather than very good or very poor, should be sought.

Taxability is the third consideration. It means the power of the Government to impose taxes against principal and income. Were all securities equally affected under the multitude of tax laws, the question would be of but passing interest. But the converse is nearer the truth. The income from some securities is exempt from the Federal income normal taxes and surtaxes; from others, exemption applies only to the normal tax; from others, no exemption exists either way. State income taxes further involve the problem. Federal and State inheritance taxes complicate the status of the investor so that "to die intelligently" one must be careful as to securities held and place of residence; otherwise, his estate may be severely penalized.

Of these three attributes, safety is foremost. Marketability and taxability are important but of minor interest. Safety is the "sine qua non" of the entire field. The essential task of investment banking is the determination of the degree of safety in the various securities which are sold to investors.

The measurement of safety.—The degree of safety in an investment security may be measured in various ways. Probably there is no one best way. One follows different procedure according to the kind of security. Bonds are analyzed on a different basis from stocks. Municipal bonds do not have the same yardsticks as corporate bonds. Railroad bonds and industrial bonds have dissimilar qualities. Preferred stock tests do not apply to common stock. All these factors are brought out in the chapters which deal with these classes separately. The purpose of the present discussion is rather to bring points of analysis which pertain to securities in general and not especially to the individual classes.

The prime factor of safety is the ability and willingness of the issuer of the security to make the promised payments.

This applies whether the promisor is a Government, a corporation, or an individual. As long as the promisor is able to pay and is willing to pay, the investment is safe. The possession of ample resources has not prevented defaults in the payment of municipal bonds where willingness was lacking. Analysis of resources is interesting and significant but investors do not want to buy law suits. On the other hand, numerous defaults have come where willingness to pay was present but ability was lacking. Neither ability nor willingness should be assumed; the investor should be assured on both points.

But upon what do ability and willingness depend? They depend, in the final analysis, chiefly upon the service which the money is rendering. This is the great test of safety. If the capital is being employed profitably, the promisor will certainly be able and will probably be more than willing to meet the obligation. If the capital is not being used to advantage, the promisor may not be able, and even if able, may not be willing to honor the obligation. Numerous examples might be cited. In 1923 the Southern Railway issued \$20,000,000 in General Mortgage 6 per cent bonds and, as a guarantee of safety, showed how the road would earn 20 per cent annually from the use of the money. Almost invariably corporate receiverships result, not from lack of capital, but from inability to use the capital profitably. Ability and willingness to pay is far more a matter of earning power than of tangible assets.

Safety based upon earning power.—The safety of a security therefore depends largely upon the income-producing capacity of the issuer. The possession of physical assets is a factor of importance in the analysis, but property without earning power is of little market value. The best method of valuing any asset is on the basis of what it can be sold for. In turn, the sales price is proportionate to the

earning power. Seldom if ever are asset valuations on corporate balance sheets based on earning power. The general practice is to show cost price less estimated depreciation. Such a valuation rarely reflects market value. Cluett-Peabody earns about three million dollars annually from a plant valued at about five millions. Alaska Gold Mines operates at an annual deficit a plant valued at nearly fifteen million dollars. The book valuations are poor criteria of liquidating market value.

Accordingly the investor should be far more interested in how much the company is making than in how much the assets are valued at. One popular test of the safety of a bond is to compare the total bond issue with the book value of the assets and thus to determine the margin of safety. It is here submitted that a far better test of safety is to compare the amount of the annual interest requirement with the earnings available for payment. The margin of safety established by the second method is unquestionably superior as a test to that determined by checking against assets. The book valuations of the assets of failing companies evaporate with a rapidity that is almost tragic to investors who think they are adequately protected.

It is not suggested that no attempt be made to compare obligations with assets. A useful purpose is served, especially as a check against over-capitalization. A \$1,000 bond secured by assets valued at \$3,000 is usually safer than one secured by \$2,000 in assets. The point is that such a test is less significant than one of earning power. Balance-sheet values are simply statements of opinion, not of facts, prepared by interested parties. The intention is generally to make an impartial presentation, but quite often the result is misleading. If the balance sheet is based upon going-concern value, the investor must check upon value in liquidation which is invariably much lower.

The investor is likely to overlook the fact that in the average bond, the aggregate value of the coupons far exceeds the value of the principal. In any bond which has a maturity beyond twenty years, the present value of the coupons exceeds the present value of the principal. The purchaser of a 6 per cent bond due in fifteen years, pays \$1,100 which nets a return of 5 per cent yearly; of the total cost, \$625 pays for the right to receive the coupons and \$475 for the right to receive the principal at maturity. Surely he is more interested in the safety of the interest payments than in safety of principal.

The most satisfactory test of the safety of any security is the relation between the annual income requirement on that security and the amount of earnings available to make the payment. In this respect, the showing of any single year is inconclusive. The average available income over a series of years, at least five, must be taken. For a steam railroad company, experience indicates that bond interest should be earned at least 1.25 times, a "factor of safety" of 25 per cent; for a utility bond, at least 2.0 times, a factor of safety of 100 per cent; and for an industrial bond, 2.5 times, a factor of safety of 150 per cent. Experience has also

MAXIMUM RATIOS

Item	Railroads	Public Utilities	Manufactures
Value of property	Four times gross revenue	Four times gross revenue (Except water and hydro-electric)	Average net earnings capitalized according to nature of business
Gross revenue	Base	Base	Base
Operating expenses	75% of gross revenue	60% of gross revenue (without depreciation)	90% of gross revenue
Net revenues	1.5 times fixed charges	2.0 times fixed charges	2.5 times fixed charges in poorest year
Fixed charges	10% of gross revenue	15% of gross revenue	5% of gross revenue

shown that the total fixed charges of a railroad company should not exceed 10 per cent of average annual gross revenue; of a utility company, 15 per cent of the revenue; and an industrial company, 5 per cent of the revenue.

Earning power may be used as a basis for further analysis. The operating expenses of a railroad should not exceed 75 per cent of operating revenues; a utility company, not over 60 per cent; and a manufacturing company, not over 90 per cent. The fixed property account of a railroad is probably overvalued if it exceeds four times the average annual gross revenue; of a utility company, if in excess of four times; and of an industrial company, if in excess of average net earnings capitalized at a fair rate of return.

The great test of safety is the service which the money is rendering, which is but another way of saying that earning power and not possession of assets determines the assurance which every investor desires against loss.

Safety based upon investment contract.—The nature of the investment contract has definite effect upon the investment position of any security. Bonds are inherently better than stocks, mortgage bonds better than debentures, and preferred stock superior to common. These differences arise purely out of the terms under which the securities are prepared. The mortgage bond bears not only the promise of payment but also the specified pledge of property mortgaged to guarantee payment. The owner of the debenture bond has received no such assurance of payment. The company which issues preferred stock promises full payment of dividends before any distribution on the common stock. The terms of the investment contract are the specified conditions under which the payment of income is to be made and the penalties which may be imposed for default in any of the promises.

The nature of the contract has profound effect upon in-

vestment values. It makes one of the Erie bond issues—the New York and Erie First 4's of 1947—a splendid investment and Erie common stock a poor speculation. As of a single day, it caused the following variations in the prices of the Union Pacific securities:

<i>Security</i>	<i>Price to Yield</i>
First and Land Grant 4's of 1947.....	4.10%
First and Refunding 4's of 2008.....	4.40
Convertible 4's of 1927.....	4.70
Preferred stock	4.82
Common stock	5.44

As the lower yield reflects the higher price, the securities which had the greatest assurances of payment commanded the better market.

Safety based upon legality and capitalization.—Two factors which exercise substantial influence upon investment safety are the questions of legality of issue of public bonds and capitalization plan in corporate securities. As both are treated in considerable detail later, only passing mention is made at this point. The purchaser of any public bond, whether Government, State, county, or municipal, should be fully assured on the point of legality of issue. He is more likely to meet trouble in this direction than in any other way. Similarly, the purchaser of corporate securities should ascertain if the financial plan of capitalization of the company is sound. If bond issues comprise a large part of the total, the danger of default in the payment of charges is serious. The company with a small percentage of capitalization in bonds can stand dull times better and is inherently sounder than otherwise. One of the contributing causes for the many traction receiverships of recent years was the excessive bond interest charges. Lean operating years found the industry poorly prepared as in 1917 fifty-five per cent of the entire capitalization was in bonds.

CAPITALIZATION RATIOS

Class	Stock and Surplus (Minimum)	Bonds (Maximum)
Railroads	40%	60%
Public Utilities	50	50
Industrials	67	33

Safety based upon seasoning.—No security has established its true value until it has been seasoned. In other words, a security occupies a rather indefinite plane until it has been outstanding for a period. New security issues are priced at what investment bankers believe represents fair value, but the ensuing market price is usually higher or lower. After the security has been out a while, it establishes its position and becomes seasoned. How long should this seasoning require? It depends upon many factors, one being the position of the investor. Public utility bonds were outstanding thirty years before New York State included them among legal investments for savings banks apparently because of a lack of proper seasoning. So final proof of seasoning would probably be inclusive in the securities approved for savings banks and trustees by conservative States such as New York and Massachusetts, or in British Trustee Investments. The average investor can afford to be less exacting but will nevertheless require at least some seasoning before purchasing. New securities of an old-established company do not come in this category as it is the enterprise rather than the security which is under scrutiny. But securities of newly organized companies seldom, if ever, deserve investment consideration.

Marketability.—The second major test of a good investment is its marketability. As has been earlier stated, a fair degree of marketability rather than either extreme should be sought. In each case it should be suited to the position of the investor. Business men and banks buying securities temporarily to employ surplus funds naturally de-

sire ready marketability. But the ordinary investor has not equal need. Investors who want this quality are willing to pay a higher price for a marketable security than one equally good in other respects. The difference runs from one-half to one per cent in yield. This means that a 6 per cent twenty-year ready-marketable bond would sell to yield $5\frac{1}{2}$ and command a price of \$1,060 at the same time a similar but less marketable bond would sell to yield 6 per cent and command a price of \$1,000. Marketability costs money and the investor should buy no more than he needs.

Marketability is tested in different ways. The relative ease with which a quotation can be secured is one. The spread between bid and asked price is another; a bid of 92 and an asked price of $92\frac{1}{2}$ shows an active market, whereas a bid of 90 and an asked price of 95 shows an inactive market. The volume of trading reported in the security is a third test.

Marketability depends upon: (1) the reputation of the company, (2) the amount outstanding, (3) the distribution, (4) whether closely held, (5) availability for "legal" investment, (6) degree of seasoning, and (7) popularity with investors. One should not overlook the fact that many poor securities have wide marketability as a result of speculative opportunities.

Investors who desire to negotiate bank loans with bonds and stocks as collateral will find the first test of the banker is marketability. The collateral is acceptable not because of fundamental soundness in the securities but because of ready marketability in the event the collateral must be sold to meet the bank loan. The amount of the loan is usually proportionate to the market value of the collateral.

Taxability.—So important has the relation of taxation to investment become, that a full chapter is later devoted to this subject. Suffice it to add here to what has already been said, that every investor should consider carefully the

tax position of each security before he buys. It is not enough that it have adequate safety and marketability. It should also impose on him a degree of taxation burden no greater or less than his position warrants.

The significance of yield.—The yield obtainable from an investment security is the percentage which the annual net income bears to the capital invested. It is the common denominator of investment value. If it is small, it indicates a good security; if it is large, the security, *per se*, is speculative. One need know but the yield at the current market price to tell quite definitely the investment status of any security, regardless of what may or may not be the earning power, the assets, the nature of the contract, the seasoning, the marketability, or the reputation, behind the issue. All these are reflected in the yield. Moreover, the yield offers ready comparison of the investment desirability of any security with all other securities.

The test is simple enough. One observes the yield obtainable on the highest-grade securities, such as the Fourth Liberty $4\frac{1}{4}$'s of 1938, at a given time is 4 per cent. Then the assumption is that the highest-grade, or gilt-edge securities will not yield over $4\frac{1}{2}$ per cent. The high-grade securities will have a yield range between $4\frac{1}{2}$ per cent and 5 per cent; the good securities between 5 per cent and 6 per cent; the fair, between 6 per cent and $7\frac{1}{2}$ per cent; and those yielding over $7\frac{1}{2}$ per cent are in the speculative class. These ranges are not offered as permanent criteria. The limits will change with changes in the money market and in investment interest rates. But the method does offer an extremely simple and exceedingly efficient method of testing investment value. The thoughtful reader will have noted that these yields are essentially the combined result of many individual analyses made along lines suggested throughout this chapter.

CHAPTER V

UNITED STATES GOVERNMENT BONDS

Government bonds.—Most highly regarded of all investment securities are the bonds of the United States Government. When current revenues from taxes, duties, and other sources are inadequate to meet current expenses, the Federal Government is obliged to borrow funds in the investment market. The duration of the loan, the interest rate, and other features depend upon the condition of the money market and the probable state of Federal finances in the near future.

The chief reason why the United States has issued bonds is the financing of war operations. Practically the entire present debt may be attributed to the cost of the World War. The building of the Panama Canal, however, is a conspicuous example of an occasion where large sums were borrowed for a purpose other than war. In general, the statement holds true that the Federal Government borrows for long terms when it is more expedient that the payment be spread over a long period, as illustrated in the Liberty issues, and for short terms when the payment can be conveniently made in the near future, as illustrated in the issue of Treasury certificates of indebtedness to meet temporary deficits in current expenditures.

The security of Government bonds.—Bonds issued by the Government are simple promises to pay with no stated security. In other words, no security similar to that of a mortgage, under which specific property is pledged, is given. The security is implied and intangible. In the

final analysis, it rests upon the willingness of the people to pay. Government bonds are bought on a basis of good faith which means confidence in the willingness and ability of the populace to meet its obligations.

When the Government borrows, the good faith and credit of the entire nation, regardless of State lines, is pledged. Taxes to support the Government bonds may be levied against all taxable sources, irrespective of local needs. The specific security is the power of the Government to levy taxes in any manner deemed expedient, whether against property, or income, or imports, or other assets.

Ability to pay.—Although the National debt has enormously increased as a result of the World War, no apprehension should be felt as to the ability of the Government to make payment in full. The total debt is about twenty billion dollars, against which European credits, of uncertain value, may be applied to the extent of approximately ten billion dollars. The annual debt service which includes the interest charge and sinking fund requirement to pay the debt at maturity is about one billion dollars.

The total wealth of the country is estimated to be about three hundred billion dollars. Government bonds, having in effect a prior claim against this property, amounted to but seven per cent of the value. If the debt of the various States and municipalities is added to the Federal debt, the total debt is ten per cent.

The total income of the nation is estimated to be about sixty billion dollars annually. The debt service of one billion dollars therefore represents less than two per cent of the total income of the American people, even excluding whatever interest payments may be received upon the European debt. The point is freely conceded that many other charges must be met from this income, especially other public expenses which have increased so rapidly that the

total annual tax bill of the American people is now over eight billion dollars. But the payment of the Federal debt has a decided priority of claim against the national income.

Obviously wide margins of safety both as to assets and as to income exist on United States Government bonds. Ability to pay may not seriously be questioned.

Willingness to pay.—Credit standing is founded upon confidence in capacity, or ability to pay, and upon character, or willingness to pay. Willingness is a matter of good faith and may best be judged from experience. The credit reputation of a nation is based upon its record in meeting past obligations. There has never been any default in the payment of principal or interest on a United States Government bond. In fact, the only default on a Federal obligation occurred in the discount redemption of the Continental Currency issued during the Revolutionary War. So long indeed has the Federal Government met its obligations punctually that the expression "safe as a Government bond" has been almost proverbial.

Classes of Government bonds.—Bonds outstanding which have been issued directly by the United States Government, and for the payment of which the Government is directly responsible, may be divided into three classes according to time of issue. Those issued prior to 1917 are termed the pre-war issues and comprise the Twos of 1930, the Panamas of 1936, of 1938, and 1961, and the Postal Savings issues. Those issued during the World War are known as the Liberty issues, and include the First $3\frac{1}{2}$'s of 1947, and the Fourth $4\frac{1}{4}$'s of 1938. Those issued since the War include the Treasury $4\frac{1}{4}$'s of 1952, 4's of 1954, $3\frac{3}{4}$'s of 1956, $3\frac{3}{8}$'s of 1947 and the various certificates of indebtedness and Treasury notes for short-term maturities.

Pre-war issues.—Practically no investment interest ex-

ists in the pre-war issues. With the exception of the Panama Threes of 1961 and the Postal Savings bonds, these pre-war bonds are owned chiefly by National banks which have pledged them as security for the issue of National banknotes. As this circulation privilege is valuable to the banks, these institutions can afford to pay a higher price for these bonds than can other investors. At this writing, the yield obtainable from a purchase of Twos of 1930 is under 2 per cent yearly. Yet millions of dollars in these bonds is being held by private investors. Such a policy is foolish when a return exceeding 3 per cent can be obtained from other Government bonds, such as the non-taxable First Liberty 3½'s of 1947 and Panama Threes of 1961, which do not have the circulation privilege.

The Panama Threes of 1961 are outstanding to a total of \$50,000,000, are fully tax-free, have a distant maturity, and are not eligible for circulation purposes. This issue represents what might be termed the pinnacle of investment desirability in this country. The tax-exemption feature, however, makes the yield too low for the investor of limited means.

The Postal Savings bonds are issued in semi-annual series, bear 2½ per cent annual interest, are redeemable after one year from date of issue, and are payable twenty years from date of issue. The bonds are not popular with American investors because of the low interest rate. They appeal chiefly to foreign-born residents who seek mainly a safe place for their savings and who are accustomed to this method of investing.

The Liberty bonds.—Liberty bonds, issued during the World War, comprise about one-half of the National debt, or about eight billion dollars. Probably no other bonds enjoy so wide a market. Approximately twenty million investors subscribed to the original issues, and al-

though many have since sold their bonds there can be no question but that present holders are numbered in the millions.

The different issues vary with regard to interest rates, maturity dates, tax position, and other features, as is fully shown in the accompanying digest.

The First 3½'s enjoy what might be termed an artificial market due to their complete exemption from income taxes and for this reason appeal to investors with larger incomes which would otherwise be subject to heavy surtaxes. The other issues, however, are widely sought by investors who desire a maximum of safety upon their commitments.

The price of Liberty bonds depends entirely upon market conditions. As the bonds bear a fixed rate of interest, the market value will change as interest rates change. The fact that the bonds may be selling at a discount should not be construed as apprehension over their payment. The day-to-day prices will vary as prospective buyers and sellers appear in the market that day. But the month-to-month and year-to-year prices will depend more upon the general demand for and supply of loanable funds, as reflected in interest rates. If interest rates are rising, Liberty bond quotations will fall, since prospective buyers now desire a higher yield from their investments. If interest rates are falling, Liberty bond quotations will rise. It should be noted in either case, that the direct cause is not the relative supply of Liberty bonds being offered for sale. A change in interest rates operates as a lever to advance or to depress all bond values, including that of Liberty bonds.

All Liberty bonds will approach par as the respective maturity dates draw near. But beyond this certainty there is little basis for the assumption that all issues will gradually appreciate in value as they become more seasoned. What seems more reasonable to assume is that future variations

Liberty Bond Issues Outstanding on January 1, 1930

Title of Bond	Description	Dated	Int. Pa'ble	Form	Callable on and after—	Due	Convertibility	Receivable at par a/c Inher. Tax
1st Liberty 3½'s 1932-1947	1st Loan	June 15, 1917	June and Dec. 15th	Coupon and Reg'd Inter- change- able	June 15, 1932	June 15, 1947	Not	No
1st Liberty 4's 1932-1947	1st 3½% Loan Converted into rate of 2nd Loan	Nov. 15, 1917	June and Dec. 15th	Ditto	June 15, 1932	June 15, 1947	Not	No.
1st Liberty 4½'s 1932-1947	1st 3½% or 1st 4% Loan converted in- to rate of 3rd Loan	May 9, 1918	June and Dec. 15th	Ditto	June 15, 1932	June 15, 1947	Not	If owned and held 6 months prior to death
1st Liberty 2nd Conv. 4½'s 1932-1947	1st 3½% Loan con- verted into rate of 4th Loan	Oct. 24, 1918	June and Dec. 15th	Ditto	June 15, 1932	June 15, 1947	Not	If owned and held 6 months prior to death
4th Liberty 4½'s 1933-1938	4th Loan	Oct. 24, 1918	April and Oct. 15th	Ditto	Oct. 15, 1933	Oct. 15, 1938	Not	If owned and held 6 months prior to death

will be above and below par value as the general condition of the money market and business activity determine.

Stimulation of the market for Liberty bonds will be constantly afforded through Federal purchases for the Sinking Fund. The Government is obligated to redeem about \$250,000,000 annually through open market purchases. Moreover, foreign governments are permitted to offer Liberty bonds at par in payment of debts to this country. This will tend to check any tendency of the market price of the bonds to go materially below par. And there will always be reluctance on the part of holders to sell at a discount bonds which are certain to be redeemed in full at maturity. Added to this element of strength is the influence of potential buyers who appreciate the intrinsic value of the bonds and who would enter the market in large numbers under the encouragement of anything approaching a substantial discount on the bonds.

Tax position of Liberty bonds.—First Liberty 3½'s are exempt from all Federal, State and local taxes except estate and inheritance taxes.

All Liberty 4's and 4¼'s and Treasury Bonds are exempt from Federal normal income tax, and all other Federal, State, and local taxes, except (a) estate and inheritance taxes and (b) Federal income surtaxes.

Liberty 4's and 4¼'s and Treasury Bonds are also entitled to limited exemptions from Federal income surtaxes as indicated below:

During the life of the securities, up to \$5,000 in the aggregate of Liberty 4's and 4¼'s, Treasury Bonds, and Treasury Certificates.

Post-war issues.—Federal financing since the World War has included both long- and short-term issues.

On November 15, 1927, the long-term issues were as

follows: Treasury $4\frac{1}{4}$'s of 1947—52; Treasury 4's of 1944—54; Treasury $3\frac{3}{4}$'s of 1946—56; and Treasury $3\frac{3}{8}$'s of 1943—47.

Certificates of indebtedness are usually for one year or less. The interest rates vary and are determined by market conditions at the time of issue. The certificates are exempt from Federal normal income tax, and from all other taxes, except (a) estate and inheritance taxes, and (b) Federal income surtaxes. Certificates are issued in coupon form only.

Treasury notes have maturities varying from one to four years. The interest rates are made proportionate to the market rate at the time of issue. Tax position is the same as on the Treasury Certificates. Treasury notes are issued only in coupon form.

Treasury certificates and notes are most popular as short-term investments. They represent a favorite field for the temporary employment of funds by banks and corporations. The market is very active and the close maturity dates keep the prices near to par. They are regarded as the equivalent of cash on hand by investors generally.

Territorial bonds.—Bonds issued by the Territory of Hawaii, of Porto Rico, and of the Philippine Islands, are sometimes regarded as Government bonds. Such an opinion, however, is not warranted. The United States Government does exercise a supervisory power in connection with the bond issue of these Territories, but does not guarantee the payment of either principal or interest.

The bonds of these Territories are exempt from all taxation, except estate and inheritance taxes, levied by Federal, State, or local authorities. Hawaii bonds are legal investments for savings banks in New York and certain other States. Bonds of the Philippine Islands and the Island of Porto Rico are not legal for savings banks in any State.

Farm loan bonds.—The Federal Farm Loan Act of 1916 authorized the establishment of certain banks to deal exclusively in farm loans. These banks are known as the Federal Land Banks and the Joint Stock Land Banks. The Banks are intended to provide capital for agricultural development, to create standard forms of investment based upon farm mortgages, and to equalize rates of interest upon farm loans.

Many technical differences exist between the methods of operating the Federal Land Banks and the Joint Stock Land Banks, as is shown in the accompanying comparative analysis. But the differences are more apparent than real. The Federal Farm Loan Board supervises the operations of both with equal care. The United States Government does not guarantee payment of the bonds, although a moral obligation may be implied. The bonds, however, have been officially recognized as instrumentalities of the Government and, as such, are exempt from Federal, State, and local taxes, except estate and inheritance taxes.

COMPARISON OF FEDERAL LAND BANKS AND JOINT STOCK LAND BANKS.

FEDERAL LAND BANKS

\$750,000 per bank by public subscription; Treasury to supply the balance unsubscribed at the end of 30 days, but Treasury to receive no dividends. Twelve *mutually liable* banks (and their branches) serve 12 districts, which comprise entire United States, Alaska, and Porto Rico; under supervision of FEDERAL FARM LOAN BOARD (which consists of Secretary of Treasury and six presidential appointees).

Capital stock must equal at least 1/20 of amount of bank's bonds outstanding. National Farm Loan Associations are required to take stock for 5 per cent of amounts they borrow; consequently, above stock ratio is automatically maintained.

JOINT STOCK LAND BANKS

\$250,000 per bank privately subscribed by ten or more natural persons; *stock carries double liability*; number of banks not limited; under supervision of Farm Loan Board. Have same powers and limitations as Federal Land Banks, except as otherwise specifically provided.

Capital and surplus must equal at least 1/15 of amount of bank's bonds outstanding.

At least 25% of capital represented by stock in the hands of National Farm Loan Associations must be held in quick assets and 5% in U. S. Government Bonds. Furthermore, 25% of net earnings shall semi-annually be carried to reserve until reserve equals 20% of capital; thereafter 5% to reserve.

To purchase, from National Farm Loan Associations, first farm mortgages made for agricultural purposes. Mortgages may not exceed 50% of land value and 20% of permanent improvements as determined by Federal appraisers. Mortgages to be amortized within 40 years, but not paid off before five years. Limit on mortgages to one party: \$25,000, at not more than 6%, nor more than 1% above the rate of the bank's last bond issue (except in Alaska and Porto Rico:—limit to one borrower \$10,000 to be amortized within 20 years, at a rate not greater than 1½% above bond rate). National Farm Loan Associations receive 95% of face amount of mortgages in funds and 5% in Federal Land Bank stock.

By issue of tax-free *mutual liability* bonds, "Instrumentalities of U. S. Government", against above mortgages as collateral deposited with Farm Mortgage Registrar. Form and terms of bonds prescribed by Farm Loan Board and Act requires that bonds be *callable* within not more than 10 years. Arrangement is provided in future for consolidated issues and banks are mutually liable for each other's bonds.

No "quick-assets" or "Government bonds" reserve required; but as with Federal Land Banks, 25% of net earnings must be semi-annually carried to reserve until reserve equals 20% of capital; thereafter 5% to reserve.

To loan to farm owners of state in which incorporated and one contiguous state, on first farm mortgages. Identical restrictions and supervision as Federal Land Banks: mortgages may not exceed 50% of land value and 20% of permanent improvements, as determined by Federal appraiser; mortgages to be amortized within 40 years, but not paid off before 5 years; not more than 6% shall be charged, nor more than 1% above rate of bank's last bond issue.

Limit to one borrower \$50,000 or 15% of bank's capital. Purpose of loans not defined, but "for agricultural development" understood. Bank may pay an agent's commission to banks or individuals procuring loans, but when loaned at maximum 6% no charge can be made borrower except for (a) appraisal and (b) determining title. Sale of stock to borrowers is discouraged.

By issue of tax-free *independent* bonds, "Instrumentalities of United States Government", against above mortgages as collateral deposited with Farm Mortgage Registrar. Form and term of bonds prescribed by Farm Loan Board and Act requires that bonds be *callable* within not more than 10 years. Bonds are printed and authenticated by the Government and assert that the issuing bank is under Government supervision. Coupon rate, except as effected by the above, discretionary with bank.

UNITED STATES GOVERNMENT BONDS 65

FEDERAL LAND BANK BONDS, AUTHORIZED AND ISSUED AS OF DEC. 31, 1927

<i>Title of Bond</i>	<i>Rate of Interest</i>	<i>Date of Issue</i>	<i>Date of Maturity</i>	<i>Amount Outstanding</i>
1. Federal Land Bank....	5s	May 1, 1921	May 1, 1941	\$100,191,560
2. Federal Land Bank....	5s	Nov. 1, 1921	Nov. 1, 1941	74,150,000
3. Federal Land Bank....	4½s	May 1, 1922	May 1, 1942	201,657,120
4. Federal Land Bank....	5s	Nov. 1, 1922	Nov. 1, 1942	495,000
5. Federal Land Bank....	5s	Nov. 1, 1922	Nov. 1, 1952	31,000
6. Federal Land Bank....	4½s	Jan. 1, 1923	Jan. 1, 1953	74,044,500
7. Federal Land Bank....	4½s	Jan. 1, 1923	Jan. 1, 1943	75,000,000
8. Federal Land Bank....	4½s	July 1, 1923	July 1, 1953	33,719,180
9. Federal Land Bank....	4¾s	July 1, 1923	July 1, 1953	47,049,420
10. Federal Land Bank....	4¾s	Jan. 1, 1924	Jan. 1, 1954	59,999,760
11. Federal Land Bank....	4¾s	July 1, 1924	July 1, 1954	35,000,000
12. Federal Land Bank....	4½s	July 1, 1924	July 1, 1954	15,250,000
13. Federal Land Bank....	4½s	Jan. 1, 1925	Jan. 1, 1955	75,909,780
14. Federal Land Bank....	4½s	July 1, 1925	July 1, 1955	16,900,000
15. Federal Land Bank....	4½s	Jan. 1, 1926	Jan. 1, 1956	67,598,440
16. Federal Land Bank....	4½s	July 1, 1926	July 1, 1956	85,889,660
17. Federal Land Bank....	4¼s	Jan. 1, 1927	Jan. 1, 1957	36,400,000
18. Federal Land Bank....	4s	Jan. 1, 1927	Jan. 1, 1957	500,000
19. Federal Land Bank....	4¼s	May 1, 1927	May 1, 1957	111,483,900
20. Federal Land Bank....	4s	July 1, 1927	July 1, 1957	500,000
21. Federal Land Bank....	4s	Nov. 1, 1927	Nov. 1, 1957	28,800,000

CHAPTER VI

STATE BONDS

State bonds as investments.—The bonds of the various States occupy as a class a high rating as investment securities. The total outstanding is in excess of one billion dollars. Exemption from Federal income taxes makes them most attractive to wealthy investors. Eligibility for investment for savings banks and trustees gives them a high degree of marketability. State laws requiring the deposit of these bonds for guaranty purposes by insurance companies further increases the demand. The combination of adequate restrictions against excessive issue and of revenues ample to meet the obligations generally exists, and gives to the bonds a high degree of safety.

Purposes of State loans.—The chief purpose for which States borrow is the construction of highways. The proceeds of over one-third of the outstanding State bonds have been used for road-building. In the final analysis, the great increase in the use of automobiles has been primarily responsible for these expenditures. An unfortunate tendency in this regard has been to issue bonds with maturities beyond the lifetime of the improvement. The resources of the States are ample to meet all bonds that have been issued, but with the constant increase in State indebtedness, the indefinite continuance of this policy may well bring about a critical situation in the more or less distant future.

The purpose for which bonds have been issued in the next highest aggregate amount is for the construction of waterways and harbor improvements. About one-fifth of the

total has been thus expended. The building of the Barge Canal in New York State has been the most important project. However, if the New York total should be excluded, it would be found that expenditures for this purpose have been relatively unimportant. Practically all water and harbor improvements are made by the Federal Government.

Bonuses for service men constitute the third highest total, about one-eighth of the aggregate. The large increase in State indebtedness since the close of the World War has been due almost entirely to road construction and soldiers' bonuses.

Refunding issues comprise about 11 per cent of the total. Agricultural aid accounts for 4 per cent, public buildings and welfare institutions about 2 per cent each, and military and educational purposes about 1 2-3 per cent each. Miscellaneous improvements and other purposes account for the remainder.

Sources of State revenues.—The main source of State revenue is the taxation power of the government. The assessed valuation in the United States in 1922 of property subject to general property taxes for purposes of State taxation totaled about \$107,000,000,000, or a per capita assessment of \$987. It may be seen that the total debt, as previously stated, is only about one per cent of the assessed property. Such a comparison is not entirely fair, however, since the burden of Federal and local public indebtedness, to say nothing of private indebtedness, against the property is not included.

The revenue receipts in 1922 of the governments of the States were about \$1,159,000,000, or a per capita of \$10.71. About 30 per cent of this total came from general property taxes, 26 per cent from licenses, 17 per cent from special taxes such as inheritance and income, 10 per cent from de-

partment earnings, and the remainder from miscellaneous sources.

Financial analysis.—The customary method of judging the relative worth of State bonds is on the bases of (1) ratio of debt to assessed valuation and (2) debt per capita. The financial statement of a State is a brief compilation as appears below:

FINANCIAL STATEMENT OF NEW YORK STATE

MARCH 1, 1924

Assessed valuation of taxable property.....	\$16,233,729,387
Funded debt	\$308,491,000
Sinking funds	84,857,081
Net debt	223,633,919

The assessed valuation may or may not be on the basis of 100 per cent of market value, according to the practice in each State. The funded debt includes long-term issues and excludes current indebtedness. Sinking funds represent the investment of amounts set aside for the ultimate redemption of the bonds. Bonds are regularly redeemed before maturity for sinking fund purposes. Net debt is the difference between funded debt and sinking funds. In the statement illustrated, the debt percentage is 1 4-10 per cent.

Accompanying tables show, as of February 1, 1924, relative financial statistics of the various States as prepared by Mr. Frank J. Loomis of Frazier Jelke and Co. Table 1 shows (a) assessed valuation (b) bonded debt, and (c) population. Table 2 shows the ratio of debt to assessed valuation. Table 3 shows the debt per capita. The first table is arranged alphabetically but the others are arranged according to ranking.

As might be expected, New York State with the largest population, has the largest assessed valuation as well as the largest bonded debt. Massachusetts, although sixth in

population, is second in bonded debt total. Illinois, third in population, is also third in total debt. Pennsylvania, however, second in population, is tenth in total debt.

A fairer test is either debt percentage or debt per capita. Indiana, Nebraska, and Wisconsin, with no funded debt, have of course zero as debt percentage and per capita. On the other extreme, Oregon has a debt percentage of 5.89 per cent and South Dakota has a debt per capita of \$97.24. New York is well below the top on this adjusted basis, although highest in the aggregate total.

TABLE 1

<i>State</i>	<i>Assessed Valuation</i>	<i>Bonded Debt</i>	<i>Population 1920 Census</i>
Alabama	\$971,802,803	\$13,826,000	2,348,174
Arkansas	415,910,066	2,500,510	1,752,204
Arizona	697,002,006	2,333,899	334,162
California	5,716,358,058	88,389,500	3,426,861
Colorado	1,542,000,000	11,016,500	939,629
Connecticut	2,018,526,711	16,291,100	1,380,631
Delaware	228,851,876	6,270,785	223,003
Florida	445,103,181	601,567	968,470
Georgia	1,024,645,571	5,284,202	2,895,832
Idaho	457,773,547	5,688,000	431,866
Illinois	4,090,509,594	92,137,500	6,485,280
Indiana	5,280,000,000	No Debt	2,930,390
Iowa	1,340,505,361	22,000,000	2,403,830
Kansas	3,554,812,791	28,500,000	1,769,259
Kentucky	2,478,205,176	2,480,000	2,416,630
Louisiana	1,600,657,984	10,280,020	1,798,509
Maine	672,767,742	13,645,300	768,014
Maryland	1,804,724,859	34,247,880	1,449,610
Massachusetts	5,971,195,982	126,396,912	3,852,356
Michigan	5,500,000,000	71,550,000	3,667,222
Minnesota	2,429,706,246	60,451,616	2,387,125
Mississippi	702,000,000	14,250,000	1,790,618
Missouri	4,223,000,000	28,523,000	3,040,055
Montana	465,200,282	4,873,000	547,593
Nebraska	3,198,632,992	No Debt	1,296,372
Nevada	162,105,135	\$1,629,000	77,400
New Hampshire	574,352,021	1,619,000	443,083
New Jersey	4,385,064,662	37,000,000	3,155,900
New Mexico	310,000,000	4,971,500	360,350

<i>State</i>	<i>Assessed Valuation</i>	<i>Bonded Debt</i>	<i>Population 1920 Census</i>
New York	\$16,233,729,387	\$263,491,500	10,385,227
North Carolina	2,576,000,000	86,947,600	2,559,123
North Dakota	1,085,923,154	17,500,000	646,872
Ohio	11,000,000,000	22,500,000	5,759,394
Oklahoma	1,691,369,724	4,188,400	2,028,283
Oregon	1,000,499,160	58,947,411	783,389
Pennsylvania	8,375,509,000	50,658,110	8,720,017
Rhode Island	1,089,289,949	11,904,625	604,397
South Carolina	424,015,714	5,382,308	1,683,724
South Dakota	1,941,398,615	61,900,000	636,547
Tennessee	1,651,018,560	15,873,000	2,337,885
Texas	3,500,000,000	4,852,200	4,663,228
Utah	646,754,323	9,120,000	449,396
Vermont	266,746,128	2,051,531	352,428
Virginia	1,826,263,160	21,090,003	2,309,187
Washington	2,740,793,334	11,000,000	1,356,621
West Virginia	2,092,571,862	44,000,000	1,463,701
Wisconsin			2,632,067
Wyoming	439,000,000	3,395,000	200,000

TABLE 2

RATIO OF STATE DEBT TO ASSESSED VALUATION

Oregon	5.89%	Tennessee	.96%
North Carolina	3.37%	New Mexico	.90%
South Dakota	3.18%	New Jersey	.84%
Minnesota	2.48%	Connecticut	.80%
Massachusetts	2.33%	Kansas	.80%
Illinois	2.24%	Wyoming	.77%
Delaware	2.19%	Vermont	.76%
West Virginia	2.10%	Colorado	.71%
Maine	2.02%	Missouri	.67%
Mississippi	2.02%	Louisiana	.64%
Maryland	1.89%	Pennsylvania	.60%
Iowa	1.65%	Arkansas	.60%
New York	1.62%	Georgia	.51%
North Dakota	1.61%	Washington	.44%
California	1.54%	Arizona	.33%
Alabama	1.42%	New Hampshire	.28%
Utah	1.40%	Oklahoma	.25%
Michigan	1.30%	Ohio	.20%
South Carolina	1.26%	Florida	.13%
Idaho	1.24%	Texas	.13%
Virginia	1.15%	Kentucky	.10%
Rhode Island	1.10%	Indiana	No Debt
Montana	1.04%	Nebraska	No Debt
Nevada	1.00%	Wisconsin	No Debt

Average, All States. 1.09%

TABLE 3

STATE DEBT PER CAPITA

South Dakota	\$97.24	Virginia	\$9.13
Oregon	75.10	Montana	8.89
Massachusetts	34.63	Missouri	8.37
North Carolina	33.97	Washington	8.10
West Virginia	30.06	Mississippi	7.95
Delaware	28.16	New Mexico	7.78
North Dakota	27.05	Arizona	6.98
California	25.79	Tennessee	6.78
New York	25.39	Alabama	5.88
Minnesota	25.32	Vermont	5.82
Maryland	23.62	Pennsylvania	5.81
Nevada	21.04	Louisiana	5.71
Utah	20.29	Ohio	3.90
Rhode Island	19.69	New Hampshire	3.65
Michigan	19.51	South Carolina	3.18
Maine	17.76	Oklahoma	2.06
Wyoming	16.97	Georgia	1.82
Kansas	16.11	Arkansas	1.14
Illinois	14.22	Texas	1.04
Idaho	13.17	Kentucky	1.02
Connecticut	11.79	Florida	.62
New Jersey	11.72	Nebraska	No Debt
Colorado	11.72	Indiana	No Debt
Iowa	9.15	Wisconsin	No Debt

Average, All States. . \$12.54

Criticism of criteria.—The methods employed in the analysis of State finances are simply the best available and are far from being completely satisfactory. Evidence of this is the fact that State bonds do not sell at differential prices according to the ranking shown. The bonds of New York, with an indicated debt percentage of 1.62 per cent and a debt per capita of \$25.39 command a market better than those of say South Carolina with 1.26 per cent and \$3.18 or of Washington with 0.44 per cent and \$8.10.

In the first place, reputation as a good creditor over a long period counts for more than relative financial standing. Character is more important than capital as a basis for credit

granting. Regardless of percentages or per capita, that State with the best credit record is the one preferred by investors.

In the second place, the available data on State finances is not entirely reliable, and even when dependable is not fairly comparable. Officials in some States are reluctant for one reason or another to give the desired data. In these cases, unofficial estimates must be made. In certain other States, the official data is not complete. Obligations for which the State is responsible at least indirectly are omitted in some cases and included in others. In some States sinking funds may be used for purposes other than retirement of the bonds.

The data is interesting as one method of judging State bonds, but in itself is quite inconclusive.

State sovereignty.—Of leading interest in connection with the study of State bonds is the principle of State sovereignty. The various rights of the respective States were jealously guarded when the Federal Constitution was adopted. The understanding was that only those rights were granted to the Federal Government which were expressly stated in the Constitution. This principle was affirmed in the tenth amendment which states that "The powers not delegated to the United States by the Constitution, and not prohibited by it to the States, are reserved to the States respectively, or to the people." Moreover, the eleventh amendment reaffirms this by stating that "The judicial power of the United States shall not be construed to extend to any suit in law or equity, commenced or prosecuted against one of the United States, by citizens of another State, or by citizens or subjects of any foreign state."

Each State is therefore its own sovereign in the creation and payment of its debt. A State may incur indebtedness limited only by its own sense of conservatism. Further-

more, it may arrange payment of its debt on any basis which it may deem advisable. If the action of the State in either respect is not beneficial to its creditors, there is no authority higher than that of the State itself to which appeal may be taken. Holders of State bonds which may be in default have no recourse to court action to compel payment.

The creation of State debt.—In practically all States, the State Constitution provides definite limitations upon the creation of State debt. These restrictions have gradually been evolved after decades of experience which has run the gamut from excellent to mighty bad. In the early post-Revolutionary days, no restrictions whatever existed, with distressing results as will later be stated.

Permission is usually granted to borrow without limit for purposes of public defense. Borrowings, within small limits, are permitted, in order to meet temporary deficits in revenue. Permission is usually granted to borrow for refunding existing debt. Fortunately, due in part to efficient handling of sinking funds and in part to serial maturity issues, refunding issues are becoming less frequent.

Permission is granted to borrow for any special purpose provided (1) the act authorizing the loan is approved at a State-wide referendum, (2) provision is made in the act for the payment of principal and interest, and (3) the purpose of the loan is not to aid private individuals or political subdivisions.

The cumulative effect of these restrictions up to the time of the World War was to reduce the individual State debts to relatively small totals, well within the power of the State to liquidate without inconvenience. Since the World War, increasing demands upon the States, notably for highways and bonus purposes, as has been stated, have tended to make the restrictions less efficacious. The result has been an alarming increase in State borrowings, encouraged to an

appreciable extent by the active demand for tax-exempt securities by wealthy investors. .

The payment of State debt.—States extinguish their indebtedness either through sinking fund accumulations during the duration of the loan, or through gradual repayment of serial maturities. If payment at maturity is inconvenient, a refunding operation may be resorted to, but happily, as previously stated, this practice is becoming less imperative. In estimating financial requirements each year for tax purposes, the States include an appropriation for interest charge and either sinking fund or serial maturity. When the revenues from taxes and other sources are received, a definite part is thus allotted for the service charge on the State debt.

Repudiation of State debts.—It was a very easy matter in the past for a State with rather loose ideas of what constitutes a right and just attitude towards the payment of its obligations, to repudiate its debts with little or no pretext. At three distinct periods in American history, certain of the States have either repudiated, compromised, or defaulted in the payment of their debts. The first period followed closely upon and was due chiefly to the depression ensuing after the panic of 1837. Between 1840 and 1842, the defaulting states were Pennsylvania, Maryland, Indiana, Illinois, Michigan, Florida, Mississippi, and Arkansas. It was at this period that Mr. Justice Curtis expressed so well the Southern viewpoint upon the punctuality of meeting obligations, which has become a classic in the study of State bonds:¹

“An intelligent foreigner, who feels a just indignation when he hears of a repudiation, probably knows the difference between a Highland Chief and a London Merchant, but is ignorant that differences quite as great exist between the people of Mississippi and the people of Massachusetts. Probably there are few points in which these differences would be so likely to be exhibited as

¹Scott, *Repudiation of State Debt*, page 234.

upon the matter of paying debts. To pay debts punctually is the point of honor among commercial peoples. But the planters of Mississippi do not so esteem it. They do not feel the importance of an exact conformity to contracts. It has not been their habit to meet their engagements on the very day if not quite convenient. Certainly they attach no idea of dishonesty to such a course of dealing. They mean to pay, but they did not expect when they contracted the debt to distress themselves about the payment. If a friend wants a thousand dollars for a loan or a gift, he can have it, though perhaps a creditor wants it also. We do not mean to intimate that there are no high qualities in such a character, but they are different from those which make good bankers or merchants; and therefore bankers and merchants ought not to expect such men to look at a debt just as they do."

The second period of repudiation was from 1848 to 1860. It is peculiar on account of the geographical differences of the three defaulting States, Texas, Minnesota, and California. Normally, defaulting States have been in the same section of the country, being in the North Central during the first period and in the South during the third.

The third period of repudiation was from 1860 to 1895, when practically all of the Southern States involved in the Confederacy defaulted—Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Louisiana, Arkansas, and Missouri.

In view of the fact that this nation will probably never see another period of repudiation, space does not permit a detailed history of the circumstances surrounding the repudiation in each case. Granting that default might conceivably be unavoided at times of financial panics and depressions, it may be stated as a general rule that no State has ever repudiated its debts except as a result of ill-advised expansion in its debt burden to the hurting point. Legislation now effective in most States will prevent such unwarranted expansion.

Security in State bonds.—Because of the peculiar legal status of the issuing States, the principles underlying the investment value of State bonds are quite different from

those applying to Government and corporate securities. Safety of principal, more than ever, becomes a relative term. Like Government bonds, State bonds are credit instruments solely. The promise to pay is backed by no specific security, such as the pledge of property. And furthermore, it has been shown that no right of action on the part of an individual or a group of individuals will be maintained in the event of default. Despite this unfavorable aspect, State bonds are among the very best of investments. The old era of possible repudiation seems to have definitely passed and an enlightened viewpoint on the part of even the worst offenders in the past has tended to bring State bonds into their own. The security of State bonds may be said to depend upon: (1) the good faith of the people; (2) the financial standing of the State, and (3) the constitutional provisions of the State governing the creation and payment of debt.

Tax position of State bonds.—State bonds are exempt from Federal income taxes but subject to Federal inheritance taxes. They are also exempt from State and local taxes, except estate taxes, in the State of issue. This exemption from taxation makes the bonds very popular with wealthy investors who not only appreciate the high degree of safety but also receive a substantially higher rate of return thereon than is obtainable after the payment of taxes upon high-grade corporate issues. A complete discussion of the relation of taxation to securities is reserved for a later chapter.

CHAPTER VII

MUNICIPAL SECURITIES

General statement.—Municipal securities include the bonds and short-term obligations of the various political subdivisions of a State, such as cities, towns, townships, counties, and special tax districts. The total outstanding in the United States is considerably over ten billion dollars and is rapidly increasing. The growth is due to augmented public expenditures coupled with the popularity of this type of securities among investors of large income. While there is reason to believe that enlightened public opinion will eventually check the tendency of municipalities constantly to increase their indebtedness, municipal bonds as a class will probably always be a popular channel for the conservative investment of funds.

Direct obligations.—Two classes of bonds are found in the municipal field, although the distinction is never apparent in the name of any particular bond. The typical municipal bond is a *direct obligation* of the issuing community and as such is backed by the full faith and credit of the borrower. For the payment of such a bond, unlimited ad valorem taxes may be assessed against all the taxable property of the locality. This type of bond is known as a “no-tax-limit” bond and is regarded as a completely enforceable obligation. “In the event of default or attempted repudiation, the bondholder may proceed in his own right to reduce his claim to judgment and may obtain a mandamus compelling the proper body or officers to levy taxes sufficient to pay the judgment. In effect the bond is a first lien on

all the non-exempt real estate and other taxable property of the municipal territory. The tax levied for its payment necessarily takes precedence over mortgages and similar specific liens, including, as a rule, special assessments. It does not, of course, take precedence over taxes for necessary municipal operating expenses."¹

Limited obligations.—Other municipal bonds are known as limited obligations, inasmuch as the full credit of the community only indirectly secures their payment. Limited obligations may arise out of three different conditions: (1) they may be payable only out of special revenues, such as from the operation of municipally-owned utilities, (2) they may be subject to a limited taxing power, such as a constitutional tax limit upon the property of the community, (3) they may be payable only from special taxes upon the property which has directly benefited from an improvement created with the proceeds of the bond issue.

Although direct obligations are always preferable to an investor, the inference by no means should follow that limited obligations are to be avoided. Relatively speaking, the direct obligations are more secure, but adequate security backs practically all limited obligations. Exceptional indeed have been the cases where the fund provided or the power existing has not been sufficient to assure payment. And even in these instances relief usually has been provided from other sources. In all cases, however, the investor in municipals should recognize that this distinction between limited and direct obligations exists, that the distinction cannot always be readily made since any type of municipal bond may be in either class, and that he should know which class he is buying.

Illustration of direct and limited obligations.—An

¹Remick, Hodges & Co., "What Is the Safest Municipal Bond?" page 4.

illustration of the use of direct and limited obligations is provided in the financial statement of Seattle, Washington, as of October 30, 1923. The total bonded debt was \$61,-678,896. Of this amount, \$44,600,496 represented limited obligations comprising \$32,984,500 payable solely from revenues of public utilities and \$11,615,996 payable solely from special assessments. Only \$17,078,400 represented the debt payable from taxes on all taxable property. It is interesting to note that water bonds are not included as public utilities and thus are regarded as direct rather than limited obligations.

Purposes of issue.—The ordinary purposes for which municipalities borrow are not numerous. The revenue derived from taxes, licenses, and other sources should cover all expenses incurred in the conducting of the public business of the community. At times, however, extraordinary expenditures are necessary. Buildings which can be utilized many years are erected. Rather than greatly increase taxes so that payment in full can be made from revenues during the year of erection, a more equitable plan is to borrow the amount involved and repay in equal annual installments during the lifetime of the improvement. This practice is regarded as consistent with the "Pay-as-you-go" policy which is now strongly recommended for all municipalities. Unfortunately, however, bonds are often issued with maturity far beyond the lifetime of the improvement. Parks have an unlimited life, but school buildings seldom can be utilized for more than twenty years, and street improvements must be renewed in ten years. The purposes for which municipal bonds are issued include streets and roads, schools, water supply, sewers, city buildings, parks, light and gas, and bridges.

Occasionally municipalities issue refunding bonds and use the proceeds to pay off a maturing issue. While this

method is regarded as sound practice when employed by private corporations which exist for gain and which can profitably employ the capital, it is not so regarded with municipalities. The municipality should provide payment during the life of the bond; otherwise municipal debt becomes perpetuated on an ever-increasing scale, with consequent tax burdens. Refunding by municipalities is forbidden in many States.

The three tests of municipal bonds.—The investment merit of a municipal bond may be determined by an analysis of three factors. The first is the ability of the community to pay interest charges promptly and the principal at maturity. The second is the willingness of the people to do so. The third concerns the legality of the issue. Other factors, such as serial maturities, suitability for trustee investment, denomination, and market price, are of importance and will be discussed later. But the three factors mentioned constitute the main tests and are analyzed separately.

Ability to pay.—The ability of a community to meet its obligations depends primarily upon the relationship between its obligations and its total taxable resources. This relationship is established by setting up a comparative financial statement such as is here shown:

The following is a statement of the assessed valuation of real estate subject to taxation for local purposes in 1924, and of the debt of the city of New York as of March 1, 1924:

Assessed valuation of real estate subject to taxation	\$11,148,811,493
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Gross outstanding debts, including corporate stock notes	\$1,380,934,669
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Less sinking fund holdings	244,207,965
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Net outstanding debt	1,136,726,704
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From this amount should be deducted water supply, self-sustaining and exempted debt as follows:

Rapid Transit	\$51,013,725	
Docks	69,943,054	
Water Supply	237,817,638	
	\$358,774,417	
Less amount of sinking funds for above issues	56,053,144	
		302,721,273
Net debt (including notes)		\$834,005,431

The first item which appears is the assessed valuation of the taxable property. The logical basis for the valuation of property for tax assessment would be to take fair market value, or, as it is termed, 100 per cent assessment. Many communities, however, assess at less than 100 per cent. A recent compilation showed that Montgomery, Ala., used 33 1-3 per cent; Little Rock, Ark., 40 per cent; Indianapolis, Ind., 60 per cent; and Albany, N. Y., 88 per cent. For comparative purposes and to determine debt percentage, assessment valuations should be adjusted to market values.

The total bonded debt includes only the debt of the city and does not include any part of the county debt, or the debt of any special tax district, such as a school district, which might include the city within its borders. In some cities, this additional debt is considerable; in other cities, it is very little. If amplification is made for this factor in the Los Angeles, Cal., statement, an additional \$29,249,373 must be added to the net debt.

Deduction is customarily made of amounts in sinking funds and of that part of the debt which is self-supporting in the determination of net debt. Revenue derived from utilities constructed with the proceeds of municipal bond issues should be sufficient to pay all operating charges and the debt service on the bond issue, which includes the bond interest and sinking fund provision. Consequently no taxes need be imposed to carry such bonds. In many cases, however, municipally-owned utilities have failed to earn enough

to pay the debt service, and in such cases it hardly seems fair to make the deduction in determining net debt.

The percentage which the net debt is of the assessed valuation is known as the net debt percentage and is of major significance. In the case of New York, as illustrated previously, the ratio was $7\frac{1}{2}$ per cent. Experience has shown that this ratio should never exceed 7 per cent except in the case of an extremely large city such as New York where 10 per cent appears an acceptable maximum. On the other hand, 5 per cent seems the limit for cities under 30,000 population.

Willingness to pay.—The willingness of a community to meet its obligations depends largely, as is the case with the individual, upon the character of the residents. Communities are merely groups of individuals and the average sense of righteousness of the people determines the reputation of the municipality. Unlike States, municipalities are not sovereign powers. In the event of default, bondholders may enforce payment through court action. Since there is little question about the enforceable nature of the claim of the bondholder, willingness to pay is predicted chiefly upon ability to pay. Defaults in the payment of municipal bonds have seldom been due to unwillingness to pay without some reflection in concurrent inability to pay.

Cases do exist, however, where default has occurred due primarily to unwillingness to pay. Fortunately most of these instances occurred many years ago when the nation was in the development stage and when legal restrictions on the creation of municipal debt were not nearly so drastic as at present. Yet the investor in municipals would do well to inquire into the past record of any community before purchasing its bonds. He might in rare instances learn that even to-day some bonds of the community are in default.

Legality of issue.—In no other field of investment must the investor inquire so carefully into legality of issue as in municipals. Since all the preliminaries in connection with the issue are usually matters of public record, and since the legal restrictions on the creation of municipal debt are likewise in published form, the investor is put upon his guard at the very outset. In theory, at least, he is stopped from presenting a good claim for payment should the municipality ever refuse payment upon the grounds of illegality of issue. In practice, however, the courts have shown a wholesome tendency to protect innocent investors in such cases and have often held as valid, claims for payment of bonds which may have been issued without the observance of all legal requirements.

The investor is rarely able to pass upon this question of legality and must rely upon the advice of his bond house which in turn must rely upon the approval of counsel specializing in this field. The approval by qualified attorneys as to legality of issue is most essential. The usual practice is that the investment banking house which buys the bonds from the municipality makes its purchase subject to approval as to legality by its own attorneys. The investor therefore should buy municipals only through bond houses whose reputation assures the employment of eminent counsel in the matter of legal approval.

The four most common reasons for which municipal bonds have been held as illegal appear to be: (1) the legislative act relied on has been held unconstitutional; (2) the debt limit has been exceeded; (3) statutory authority has been lacking; and (4) statutory requirements for proceedings have not been lived up to. The average investor is not in a position to investigate these matters. They are stated merely to show the care that must be exercised in the purchase of municipals. The purchase of the bonds

through a reliable house presupposes that someone well qualified has stated that in his opinion the issue is valid. A municipality differs from a private enterprise and is not supposedly responsible for the illegal acts of its officials.

Constitutional restrictions.—Constitutional restrictions in connection with the creation of municipal debt are found both in limitation upon the maximum tax rate which may be imposed in any given year, and in limitation upon the total net debt of the city.

Constitutional limitation upon the rate of tax, existing both in State and municipal laws is a factor to be regarded seriously. In the enthusiasm of boom times, a city may increase its debt enormously in anticipation of future expansion. If the expectations do not materialize, the city may find itself unable to meet the interest payments on account of a restriction limiting the tax rate to a maximum percentage. Birmingham, Alabama, found itself in this predicament and it was necessary to amend the law, permitting an increased rate, before relief was obtained.

Constitutional limitations upon the total debt of a city are quite common. The following States, however, have no such restrictions: Arkansas, Connecticut, Delaware, Florida, Idaho, Maryland, Michigan, Minnesota, Nebraska, Nevada, New Jersey, North Carolina, Tennessee, Texas, Virginia. The limitation is generally based upon a percentage of the assessed valuation, although in Oregon it is in dollars. The percentages vary from as low as 2 per cent in Indiana to as high as 23 per cent in South Dakota. Comparative percentages mean very little, owing to differences in assessment valuations and in the items comprising the debt total.

Prior lien of municipal bonds.—It has been stated that the security of municipal bonds depends upon taxation power rather than upon the property itself within the city

boundaries. Seldom does a city bond have a prior lien upon, nor is it secured by, any definite property. Statements on the part of over-enthusiastic bond salesmen to the effect that city bonds are secured by a prior lien upon all the property of the city, are far from the truth. In no part of the country except New England does the possible default in payment even suggest the attachment of property. Exceptions, of course, may be found in the case of water and school bonds, where definite property is pledged. It is of interest to note that default in the payment of interest on municipal bonds has no effect upon the maturity date of the principal. Default in the interest payment of a corporate bond generally makes the principal payable immediately. These two distinctions between city and corporate bonds are noteworthy.

Sinking fund and serial bonds.—The customary manner in which a municipality provides for the retirement of a bond issue is a sinking fund into which a certain part of the taxes collected each year are diverted. By the time the bonds mature, the amount in the fund should be sufficient to extinguish or “sink” the debt. Experience with municipal sinking funds has not been uniformly favorable. Little effort is made to compel the cities to observe the sinking fund provisions and responsibility for the management and operation of the fund rests with a commission of citizens which is often at a loss to determine proper procedure. Default in sinking fund payments should be regarded as seriously as default in interest payments. The responsibility for checking up the sinking fund payments should fall upon the investment house which markets the bonds.

The serial method of repayment is more economical to the city and in practice is more satisfactory to investors than is the sinking fund method. An obligation of \$50,000 is paid off in ten annual installments of \$5,000 each. The in-

vestor may secure any maturity during the ten years at the time he purchases, as is stated in the bond. This method is more economical to the city because a certain definite amount of its indebtedness must be paid off each year and the interest charge is therefore automatically reduced. The incidental work in connection with sinking fund operations is avoided, and the possibility of the misappliance of sinking fund moneys is averted. The serial method of repayment of municipal indebtedness is rapidly coming into popular use.

Tax position of municipals.—Income received from municipal bonds is not subject to Federal income taxes or to the income taxes of any State when issued by a municipality in that State. For this reason, municipals are popular with investors having large and even moderately large incomes. A man with a large income can secure a greater return from the purchase of a tax-free New York City bond yielding only 4 per cent yearly than from a taxable corporate bond which may yield over 6 per cent. The wealthy are almost compelled to divert their commitments into the tax-free classes. The tax-free character of municipals is believed to be both unsound and unfortunate. It is unsound because the ease with which municipalities can borrow encourages expenditures beyond conservative warrant. It is unfortunate because the funds which otherwise would go into productive enterprise are diverted into less productive municipal operations.

It is interesting to note that there is no express statutory or constitutional law which makes municipal bonds exempt from Federal taxation. A literal interpretation of the sixteenth amendment to the Federal Constitution which states that "Congress shall have power to lay and collect taxes on income from whatsoever source derived" would seem to make municipal bond income taxable at the discretion of

Congress. No attempt, however, has been made thus far to collect Federal income taxes on municipals under this amendment, nor has the question ever been before the Supreme Court. Precedents indicate that should the question ever be brought before the Supreme Court, the Court would hold such taxation unconstitutional. Possibly some day a new amendment specifically making municipals subject to Federal income taxes will be enacted. Such legislation has strong support and may be necessary to curb the disadvantages previously stated. But its enactment could scarcely be retroactive in scope and would apply probably only to new issues.

Municipals as "legal" investments.—In many States, trustees and savings banks are permitted to invest their funds only in securities approved by State banking officials. Such securities are known as "legal" investments, which title has no bearing upon legality of issue as treated elsewhere in this chapter. The requirements vary with the different States, but in the main, endeavor to limit investments by fiduciaries to the safest securities. Because of their excellent record and high degree of safety, municipals are widely approved for this purpose; consequently they enjoy a much broader market than do the ordinary corporate securities which are denied this approval.

But not all municipal bonds are "legal" investments. For the ordinary city, New York State requires a population of at least 30,000, incorporation for at least twenty-five years, not in default in the payment of principal or interest for twenty-five years, and net debt not in excess of 12 per cent of the assessed valuation. The desire of municipalities to keep their bonds as "legal" investments often operates as effectively to keep down borrowings as do constitutional limitations upon the total debt.

Relative municipal credit standing.—Although municipal bonds as a class stand very high in the investment field, it should be appreciated that the bonds of some cities are more highly regarded than those of others. The city which endeavors to keep down its debt and which is disposed to treat the purchasers of its bonds with the utmost fairness deserves and usually enjoys a rating superior to that of another city less careful of its credit standing. Early in 1924, the credit rating of the ten largest cities in the United States was indicated from the average yields on outstanding bonds to have been as follows:

Boston	4.00%
Pittsburgh	4.10%
Philadelphia	4.12½%
New York	4.25%
Baltimore	4.25%
St. Louis	4.30%
Chicago	4.30%
Cleveland	4.35%
Detroit	4.50%
Los Angeles	4.65%

Bidding for municipal bonds.—Municipal bonds are usually purchased by bond dealers at public sale after the offering has been advertised in various ways. This practice differs from that common in the purchase of the securities of private corporations, wherein the custom is simply for the corporation to sell the bonds to a selected bond house on an agreed basis. Competition for municipal bonds is generally keen and the city thus secures a fair price. An offering of \$55,000,000 in 4½ per cent bonds of New York City in 1921 resulted in 57 bids totaling \$218,000,000. The winning bid was 103.407 per cent of par value on an "all or none" basis, which meant that the city must sell the entire issue to the bidders at that price, and could not award part at that price to take advantage of a higher bid for the remainder. Bids as high as 105.125 for part of the issue

had to be rejected because the aggregate of the partial bids was less than the total of the "all or none" bid. It is of interest to note in this case that the successful bidders sold the bonds to investors at 104.75. The gross profit was but 1.343 per cent of the issue, which illustrates the very close profit margin upon which investment bankers operate.

Bonds of special tax districts.— It is within the power of State legislatures to divide counties, and even sections of the State embracing several counties, into special districts and to confer municipal powers upon such districts. The possible purposes of such action are many; to build a school, or construct roads; in fact, to carry out any project beneficial to the district created. The district is a district only for the purpose created and in no way changes its affiliations as far as city, township, or county relations are concerned. Although the same general principles apply, the analysis of a tax district investment is not so easy as that of a county or city. By its very nature, the financial statement can scarcely be other than misleading. The assessed valuation may be the sum of assessments taken upon different bases. The net debt may or may not include all the public obligations within the district. The tax district statement seems to combine all the unfavorable elements in county and city statements. It is apparent that the possible creation of special tax districts within communities affords fertile opportunity for financial intricacies. A municipality, upon reaching its debt limit, may form a special tax district differing but slightly from its own boundaries and secure the desired funds.

An example of an excellent tax district security is the Miami Conservancy District, Ohio $5\frac{1}{2}$ per cent bonds. The district embraces practically all the lands lying along the Miami River in Ohio, with an area of 169,600 acres, covering portions of nine counties. The bonds are a direct

obligation of the district, supported by levies against the municipalities of the district as units.

The market for municipals.—Because of their inherent security, because of their tax-free position, because of their availability for “legal” investments, and because of their excellent record, municipal bonds enjoy the highest rating in the field of investment. They appeal particularly to investors with large incomes and to fiduciary investors, such as trustees, administrators, savings banks, and insurance companies. The ordinary investor of limited means, however, would probably sacrifice too much income to warrant placing any large part of his funds in this aristocratic field.

CHAPTER VIII

RAILROAD SECURITIES

Railroad industry in the United States.— The steam railroad industry is the largest single class of enterprise in the United States. It has the largest invested capital, the greatest number of employees, and is the largest buyer in the commodity markets. The invested capital is about twenty billion dollars and the annual gross revenues about six billion dollars. Under ordinary conditions, operating expenses require about three-quarters of total revenues, which would indicate yearly expenditures for labor and materials of about four billion dollars. The annual distribution to security-holders in the form of interest and dividend payments is over one billion dollars.

The industry is now a century old. It has come through a variety of experiences, not all of which have been profitable. The early years witnessed the building of a host of small local roads. Then came the consolidation of the small roads into large systems. After the Civil War came the building of the transcontinental lines to the Pacific Coast and the construction of a veritable network of competing lines in all sections of the country. Over-expansion and over-capitalization combined with business depression in the last decade of the nineteenth century to bring financial disaster to many roads. Drastic reorganizations, sometimes repeated, were necessary to restore earning power to the companies. In the main, the readjustments were effectual. But evidence was clearly at hand as the twentieth century began that the peak of railroad building had been

passed. New mileage added since 1900 has been quite limited.

So it is that the capital problem of the railroads at present is not to finance extensions into new territories but rather to finance improvements in existing facilities. The elimination of expensive grades and curves, the substitution of more efficient equipment, and the construction of better classification yards and terminals comprise the main purposes for which the roads desire new funds. And since over one-half of the invested capital represents bonds, new capital is constantly needed for refunding.

Because of the inherent stability of the industry, its long experience, the belief that no difficulties in the future are likely to surpass those successfully adjusted in the past, and the protection afforded by the Interstate Commerce Commission, railroad bonds and stocks are regarded as the premier investments in the field of private securities.

The Interstate Commerce Commission.— The Interstate Commerce Commission is a Federal body which exercises regulatory supervision over the operations of the railroads. The Commission started many years ago with greatly limited powers. These powers have gradually been increased and reached new heights under the provisions of the Transportation Act of 1920.

The most important authority of the Commission pertains to rate-making. The Commission is instructed that rates are to be established which "will, under honest, efficient, and economic management and reasonable expenditures for maintenance of way, structures and equipment, earn an aggregate annual net railway income equal, as nearly as may be, to a fair return upon the aggregate value of the railway property of such carriers held for and used in the service of transportation." The Commission is now using $5\frac{3}{4}$ per cent as a measure of fair return which com-

pares with 6 per cent used in 1920 to 1922. The $5\frac{3}{4}$ per cent is subject to change at the discretion of the Commission. Roads earning in excess of 6 per cent on property valuation are required to pay one-half of the excess to the Government. It should be carefully noted that this provision does not guarantee any earnings to any road; it endeavors to help all roads secure a fair return.

The second most important power pertains to security issues. No railway company may issue new securities without the specific authority of the Commission. The Commission will grant the authority only if the new issue is for a purpose which the company is legally permitted to undertake, is compatible with the public interest, and is reasonably necessary or appropriate for the performance of the service. In this way, investors are protected against overcapitalization and uneconomical expenditure of capital.

A third power of the Commission requires that all roads maintain uniform accounting methods and submit monthly reports of earnings on prescribed forms. The provision not only prevents intentional and accidental mis-statement of earnings but also permits investors readily to compare the earning power of different companies.

Other authorities held by the Commission are of limited interest to the investor. The exception is the power with regard to consolidations, which is treated separately in this discussion.

Principal American railroads.—The United States has no true transcontinental roads, as the Mississippi River marks in a fairly definite manner the end of the lines which originate at the Atlantic seaboard and the beginning of the routes which terminate at the Pacific Coast. The great trunk lines, such as the New York Central, the Erie, the Pennsylvania, the Baltimore and Ohio, and the Chesapeake and Ohio, carry the traffic from Boston, New York, Philadel-

phia, and Baltimore to Chicago and St. Louis, where the so-called transcontinentals, the Atchison, the St. Paul, the Great Northern, the Northern Pacific and the Union Pacific, continue the journey westward through the Rocky mountains.

New England is served by the Boston and Maine, the Boston and Albany, and the New Haven. The North Atlantic section is covered by the Delaware and Hudson, the Lackawanna, the Jersey Central, the Reading and the Lehigh Valley. The Middle Atlantic district has the Western Maryland, and the Norfolk and Western. The Southeastern States have the Southern, the Atlantic Coast Line, the Seaboard Air Line, and the Atlanta, Birmingham and Atlantic. Chicago is served to the northwest by the Burlington, the Great Western, the Northwestern, and the Wisconsin Central, and to the south and southwest by the Alton, the Monon, the Rock Island, and the Illinois Central. St. Louis traffic moves northeast over the Wabash and southwest over the Missouri Pacific, the Katy, the 'Frisco, and the Cotton Belt Route. The Southern Pacific and the Atchison cover the Southwestern States and the Rio Grande, the Colorado and Southern, and the Western Pacific operate through the Rocky Mountain States. Few of these roads confine their operations to any one section, and the foregoing classification should be taken in a very general way. The short names used in many of the roads mentioned are explained in the following paragraph.

Short names of roads.— The long title of many American roads renders the use of the full name inconvenient for ordinary use. A short name has been coined in numerous instances as in the case of the Minneapolis, St. Paul and Sault Ste. Marie. This road is known as the "Soo." A list of the more common short names is appended:

Alton	Chicago and Alton
Atchison	Atchison, Topeka and Santa Fé
B. & M.	Boston and Maine
B. & O.	Baltimore and Ohio
Big Four	Cleveland, Cincinnati, Chicago and St. Louis
Burlington.....	Chicago, Burlington and Quincy
C. & O.	Chesapeake and Ohio
Clover Leaf	Toledo, St. Louis and Western
Cotton Belt Route	St. Louis South Western
D. & H.	Delaware & Hudson
'Frisco	St. Louis and San Francisco
Great Western	Chicago and Great Western
Katy	Missouri, Kansas and Texas
Lackawanna	Delaware, Lackawanna and West- ern
Lake Shore	Lake Shore and Michigan Southern
Monon	Chicago, Indianapolis and Louisville
New Haven	New York, New Haven and Hart- ford
Nickel Plate	New York, Chicago and St. Louis
Northwestern	Chicago and Northwestern
Omaha	Chicago, St. Paul, Minneapolis, and Omaha
Pan Handle	Pittsburgh, Cincinnati, Chicago and St. Louis
Queen and Crescent	{ Alabama Great Southern Cincinnati, New Orleans and Texas Pacific
Rio Grande	
Rock Island	Denver and Rio Grande Western
Soo	Chicago, Rock Island, and Pacific
	Minneapolis, St. Paul and Sault Ste. Marie
St. Paul	Chicago, Milwaukee, St. Paul and Pacific

Railroad reports.—The railroads of the United States are required to file regularly reports with the Interstate Commerce Commission. These reports are made public and appear in more or less condensed form in the current periodicals. Practically every road issues an annual report to its stockholders which ordinarily may be secured by a prospective investor upon request to the company. The report contains a summary of the operations of the year by the president, a statement of income, a balance sheet, operating statistics, and a map of the road. The single report of one road is of limited value for analytical purposes. More satisfactory results can be secured through a comparison with the statements of preceding years and with the statements of other lines. By reference to the map an excellent idea of the geographical location of the road may be obtained. The income statement and balance sheet show the financial status of the road, and the operating statistics reflect the efficiency of the management. Extreme care should be exercised in comparing the report of one road with that of another. Conditions differ according to geographical location, nature of traffic, and total mileage. For this reason roads should be compared which operate in the same section of the country. It would be obviously unfair to compare the operating statistics of the Pere Marquette which operates in Michigan, with those of the Alabama Great Southern. The topography of the land and labor conditions are dissimilar. The Pere Marquette may well be compared with the Ann Arbor. Nor is it equitable to compare the Lehigh Valley, which derives 10 per cent of its commodities from agricultural products and 60 per cent from mines, with the Burlington, which has 20 per cent agriculture and 40 per cent mining products. The Lehigh Valley should be compared with a similar road such as the Delaware and Hudson. As no two roads have precisely the

same mileage, the operating statistics should always be reduced to a "per mile of road" basis for comparative purposes.

Importance of geographical location.—The geographical position of a railroad determines to a large extent its earning capacity. Most of the principal roads traverse more than a single State and the earning power of the road is affected by the area, the topography, the climate, and the resources of the territory it covers. The topography of the territory affects both construction cost and operating expense. The Central Western lines, such as the Omaha and the Alton, have favorable roadways inasmuch as the land is fairly level. The lines which cut through the mountains, such as Union Pacific and Pennsylvania, must operate over grades and curves which add considerably to the expense. New York Central has a decided advantage over the Eastern trunk lines inasmuch as it follows the Hudson and Mohawk valleys to the Great Lakes and the lake shores to Chicago thereby securing practically a water level route. The other trunk lines are obliged to cut through the Appalachian Mountains.

The climate of the territory may seriously affect earnings. Railroad operation in severe winter weather is both difficult and expensive, as the employees of the lines which operate in the Northern States will testify. Roads like the Delaware and Hudson and the Great Northern show largely reduced earnings in the months when climate conditions are adverse. In arid regions, such as the waste lands of the Southwest, earnings are not good because the climate prevents any extensive development of the region.

The resources of the territory comprise the largest individual factor affecting the revenue of the roads operating therein. The Central States are mostly agricultural and grazing land; Pennsylvania and Michigan are rich in minerals; the Southern and Northwestern sections are covered

with valuable forests; while southern New England is chiefly industrial. The resources determine the nature of the principal commodity traffic of the road, and therefore exercise considerable influence upon earnings, as is shown in a later paragraph under commodity statistics.

The population of the territory is also important. The number of people directly affects passenger revenue and indirectly affects the freight traffic coming into the section. Under normal conditions the greater population coincides with greater earnings.

Other factors in geographical location.—A consideration of the geographical location leads directly to the question of competition. Few roads enjoy monopolies. A section whose geographical location is favorable to profitable railroad operation is usually one where several roads compete for traffic. Competition in rates has been largely eliminated through legislation, and competition in service has happily replaced rate-cutting. Traffic west from Boston is competed for by the Boston and Albany, Boston and Maine, and New Haven. The huge trade moving west from New York is sought by the New York Central, the Pennsylvania, the Erie, the B. & O., and many smaller lines. Steel and iron leaves Pittsburgh over the Pennsylvania, the New York Central, the B. & O., and other less important lines. The road which is operated most efficiently will naturally secure the greatest share of competitive traffic.

Competition may exist in addition to that of rival steam roads. Traffic moving to and from ocean and river ports is also sought by steamboat lines. As water transportation is cheaper than rail for reasons almost obvious, the steam lines are obliged to reduce rates between competitive points to meet the water rates and often do so to an unprofitable extent. The boat lines operating on the Great Lakes, the Atlantic Coast, through the Panama Canal, and on the Hudson, Mississippi, and Ohio Rivers provide keen com-

petition for the rails. The popularity of the automobile for travel purposes, the increasing numbers of jitney-buses, the development of pipe-line systems, all have brought competition to the steam roads.

The income statement.—The income statement of a railroad is usually drawn up in the following form (the figures used in this and following examples have been taken from the annual reports of various railroads):

(A) Gross operating revenues	\$29,989,399
(B) Operating expenses	23,449,953
(C) Net operating revenue	\$6,539,446
(D) Taxes	895,094
(E) Net railway income	\$5,644,352
(F) Non-operating income	4,789,728
(G) Total gross income (for interest).....	\$10,434,080
(H) Fixed charges (interest, inc.).....	5,441,301
(I) Net income (for dividends).....	\$4,992,779

The ratio of operating expenses (B) to gross operating revenue (A) is known as *operating ratio*. The ratio of fixed charges (H) to the total income (G) is known as the *financial risk*. The ratio of net income (I) to total gross income (G) is known as the *margin of safety*.

Gross operating revenue.—As the name implies, gross operating revenue covers the total income from operations solely and does not include income from other sources. The operating revenues are derived through five sources:

Revenue from freight traffic.....	\$25,897,807
Revenue from passenger traffic	3,073,682
Revenue from express traffic	440,447
Revenue from transportation of mails.....	170,294
Miscellaneous revenue	407,169
Gross operating revenues	\$29,989,399

The above statement shows a heavy preponderance of freight revenue, that item alone comprising over 80 per cent of the total revenue. The general average runs fairly close to 70 per cent for freight, 20 per cent for passenger and 10 per cent for the other items. Since the freight traffic of practically all railroads provides the largest part of their earnings, it should receive the closest attention. Roads such as the New Haven and Long Island, which operate through thickly populated sections, are exceptions to this rule.

The gross operating revenues should be reduced to the "per mile of road" basis for comparative purposes. During a recent year, the gross revenue of the Boston and Maine was \$57,992,040 and that of the New Haven was \$85,784,893. In view of the fact that the B. & M. operated 2305 miles of track against 1995 for the New Haven, the advantage of the latter road is greater than at first appearance. The revenue *per mile* of the B. & M. was \$25,787, whereas the New Haven earned \$43,001 per mile. The revenue per mile of the American roads varies widely. Pittsburgh and Lake Erie earned the enormous total of \$114,097 per mile in 1917 whereas St. Paul earned but \$11,090 during the same period. Revenues per mile are indicative of earning power, but should not be considered alone. Gross earnings are more dependent upon the location of the road than upon the efficiency of management. The ratio of operating expenses is of far greater value for analytical purposes.

Commodity statistics.—In view of the major importance of the freight traffic of a railroad, an analysis of the various commodities carried is of particular interest. It is quite impossible to predetermine transportation costs. The road must operate at all times and at least half of the expenses run on regardless of the volume of traffic. The

actual transportation cost of a single shipment may be approximately estimated at the close of the period and will largely depend upon the volume of traffic, as the greater number of shipments will mean a lower unit cost. Since the volume of shipments is affected by the rates in effect, the problem of fixing rates on predetermined costs is most difficult. As a matter of fact, no attempt is made to do so. Freight rates are based upon what the traffic will bear. Naturally, manufactured articles can pay a higher rate than grain and grain can afford more than raw ores, and the rates are fixed accordingly. The various commodities transported by any road, therefore, affect its earnings to a large degree. Roads which carry a large percentage of manufactured products, such as the New York Central, and of grain, such as the Burlington, have a certain advantage over roads which chiefly carry mining products such as the Lehigh Valley. This advantage, however, is often offset by lower operating costs as will later be shown. Commodity statistics are greatly affected by geographical location as may be seen from the following statement of operations for a recent year:

Class	New Haven	D. & H.	N. Y.		Rock Island	Atchi- son	South- ern Pac.
			Cent- ral	South- ern			
	%	%	%	%	%	%	%
Agriculture	11.4	7.0	9.8	9.9	28.9	22.2	17.2
Animals	2.8	1.1	3.5	1.0	6.5	5.6	2.3
Mines	29.6	59.8	51.6	42.2	30.1	31.2	31.9
Forests	6.1	6.5	4.1	17.1	6.8	7.3	22.9
Manufactures & Miscellaneous ...	50.1	25.6	31.0	29.8	27.7	33.7	25.7

The ideal condition is one where the various commodities are fairly well diversified. A sudden drop in the traffic from one source, such as a failure of the wheat or cotton

crop, will seriously affect the earnings of the roads which derive their largest earnings from that source. Diversified freight has two advantages: first, it stabilizes earnings, and second, it reflects economy of operation. A road which has a preponderance of one class usually hauls that class in one direction and must haul the cars back empty.

Measures of traffic volume.—Passenger and freight traffic are both measured in terms of density. Passenger traffic density is the number of passengers carried one mile per mile of road. Freight traffic density is the number of tons of freight carried one mile per mile of road. Passenger traffic density is determined by multiplying the number of passengers carried by the average distance each traveled and dividing by the number of miles the road operated. During a recent year, Lackawanna carried 25,307,161 passengers an average distance of 23 miles. As the number of miles operated was 980, the passenger traffic density was:

$$\frac{25,307,161 \times 23}{980} = 593,943$$

During the same period, Lackawanna carried 30,477,491 tons of merchandise an average distance of 183 miles. The freight traffic density was:

$$\frac{30,477,491 \times 183}{980} = 5,691,204$$

Density figures allow roads to be compared regardless of different mileage. The unit of comparison is one passenger or one ton carried over the entire mileage of the road, and the road which has the most of these units has the greater density and therefore has proportionately the greater volume of traffic. The densities of a few of the more important roads during a recent year follow:

TRAFFIC DENSITY

<i>Road</i>	<i>Freight</i>	<i>Passenger</i>
Delaware & Hudson.....	4,348,124	153,479
New York Central	3,990,291	493,164
Pennsylvania	6,119,749	555,877
Atchison	1,143,743	137,656
Atlantic Coast Line.....	627,915	108,309
Southern Pacific	1,204,911	165,625
Pittsburgh & Lake Erie.....	11,336,781	723,913

Distance carried.—The distance each passenger or ton is carried was considered in determining the density or volume of freight as distance also affects the rate. Passenger rates are usually in proportion to distance, but freight rates do not follow the same reasoning. Once a freight train is loaded and in transit, the expense of hauling is not great and slight difference exists in the cost of hauling an individual shipment fifty or one hundred miles. The terminal costs of loading and unloading, and the loss due to the hauling of empty cars consume the greater part of the transportation revenue. Passenger traffic loads and unloads itself, but not so freight. Long hauls are normally more profitable than short hauls as it is easier to charge a higher rate in proportion to the expense than it is in short hauls.

The freight traffic of the road should also be studied to determine the percentage of traffic which originates along the road. This class is more profitable than freight which is transferred from other lines since the originating company usually receives the lion's share of the total freight charges regardless of the proportion of the total distance that the shipment is carried. This is especially true where competitive conditions exist at transfer points. New Haven has always occupied a strategic position in this respect. Shipments originate along the New Haven lines in New

England consigned to various points south and west. New Haven forwards the freight to New York and transfers to any one of the trunk lines starting in Manhattan. New Haven carries the merchandise a relatively small part of the entire distance, but is in a position to retain a large share of the total charge. The purchase of large interests in New Haven by the Pennsylvania and New York Central may reasonably have been the result of this situation.

Car loading.—Directly connected with freight revenue is the factor of car loading. In the ordinary sense, it is economy for a road to load each car to capacity and to have a maximum number of loaded cars to the train. The expense of operating a train is fairly constant regardless of the load which it carries. The largest individual item is labor and the normal crew of six persons is carried if the train has twenty or thirty cars. The cost of operating a train per mile is therefore independent of traffic, and that road which receives the highest revenue per train mile is in the most favorable position.

The revenue per train mile depends to a great extent upon the efficiency with which the cars are loaded and moved. The unit of comparison is the train load and is expressed in tons as the product of the average number of tons per loaded car times the average number of loaded cars per train. Care should be exercised in comparing roads on the basis of train loads. Certain commodities, such as iron ore, occupy small space for their weight, while the reverse is true of other merchandise such as grain. It is therefore no reflection upon the Atchison that it moved but 520 tons per train load in 1917 when the Pittsburgh and Lake Erie moved 1,501, as Atchison had 17 per cent agricultural products and 44 per cent mining, whereas Pittsburgh and Lake Erie had but 1 per cent agriculture and 71 per cent mining.

Operating expenses.—Operating expenses are divided into the following classes:

Maintenance of way and structures.....	\$2,521,969
Maintenance of equipment	6,662,232
Traffic expenses	325,898
Transportation expenses	12,746,189
Miscellaneous operations	188,510
General expenses	1,074,075
Transportation for investment (cr.).....	68,921

Total operating expenses	<u>\$23,449,953</u>
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The ratio of the total operating expenses, \$23,449,953, to the operating revenues, \$29,989,399, is 78.20 per cent, which is the operating ratio. This ratio is most important as it shows how much of the operating revenues is consumed in expenses, and conversely how much remains as true income. Other things being equal, the road with the lowest operating ratio is the best managed and most prosperous. But a low operating ratio may be maintained at the sacrifice of adequate provisions for maintenance, a state of affairs which is obviously false economy. The necessity of analyzing operating revenues to determine the adequacy of maintenance expenses is therefore apparent, and this analysis must cover a reasonably long period of years.

Operating expenses are usually compared on a percentage basis, or per mile operated, or per train mile. A statistical comparison of the operating expenses for a recent year of the Delaware and Hudson and the Lehigh Valley on each of the three bases follows:

PERCENTAGE OF GROSS INCOME

	Delaware & Hudson	Lehigh Valley
Maintenance way and structure.....	8.41%	10.03%
Maintenance equipment	22.22	18.74
Traffic	1.09	1.90
Transportation	42.27	45.21
General and miscellaneous	4.21	2.51
	<u>78.20%</u>	<u>78.39%</u>

INCOME PER MILE OPERATED

	Delaware & Hudson	Lehigh Valley
Gross revenue	\$32,980	\$36,981
Operating expenses	25,790	28,989
(Maintenance of way and structures).....	(2,774)	(3,710)

REVENUE AND EXPENSES PER TRAIN MILE

	Delaware & Hudson	Lehigh Valley
Operating revenues	\$3.773	\$3.948
Operating expenses:		
Maintenance of way and structure.....	0.316	0.396
Maintenance of equipment.....	0.838	0.740
Traffic	0.041	0.075
Transportation	1.596	1.785
General and miscellaneous	0.159	0.099
 Total operating expenses.....	 \$2.950	 \$3.095

The percentage method is most frequently used for comparative purposes, but the revenue and expense per train mile appears more scientific. Train miles are what the railroad has to sell and it certainly seems more logical to base operating statistics upon actual cost than upon a percentage of revenues when the cost per train mile is largely independent of the revenue per train mile. Recently the Pennsylvania had an operating ratio of 79 per cent and Lackawanna had but 66 per cent, despite the fact that both roads expended the same amount (\$3.17) per train mile. The difference in operating ratios is not therefore due to superior efficiency in operation but rather to the difference in rates on the commodities carried. Pennsylvania secured but \$4.02 per ton whereas Lackawanna obtained \$4.82. The operating management of the road has no control over the rates charged for transportation and it is accordingly unfair to base operating efficiency upon any percentage of the gross revenue from such rates. Operating ratio is important to the investor inasmuch as it indicates the proportion of gross earnings remaining after expenses, but it should not be used

for comparing the operating efficiency of roads which conduct transportation under different conditions, such as varying rates, as has just been shown, and circumstances explained in the succeeding paragraphs.

The operating ratios of American railroads vary widely. Under normal conditions a ratio between 65 per cent and 75 per cent is considered as good as the average. As will later be shown, the expense for labor comprises the largest single item, about one-half of the total expense. When wages are high, operating ratios will also be high, and vice versa.

Maintenance of way and structures.— Expenses incurred in connection with the maintenance of way and structures comprise a great many items. The following list shows the principal expenditures:

Applying track material.....	\$338,155	13.41%
Roadway maintenance	336,656	13.35
Ties	330,492	13.10
Track maintenance	323,585	12.83
Superintendence	177,083	7.02
Bridges, trestles and culverts	146,363	5.80
Rails	88,873	3.52
Miscellaneous	780,762	30.97
Total	\$2,521,969	100.00%

Fluctuations in the cost of material and labor render difficult the comparison of costs expressed in dollars between different periods, but do not radically affect the comparison between roads at the same period. For this reason, it is hard to state just how much a normal road should spend in maintenance either per train mile, or per mile of road. The topography of the land and the density of traffic affect the expenditure for maintenance of way and structures. Roads which operate through mountainous States, with steep grades and many bridges and trestles, must expend

more than the lines which cross the prairie lands. Heavy traffic densities mean added wear and tear to the roadway and structures. Lehigh Valley expended \$3,710 per mile for maintenance of way and structures during 1917 against \$4,607 for Lackawanna. But Lehigh's freight traffic density was but 4,456,482 against 5,705,146 for Lackawanna, which is approximately in the same proportion as the expenses. Lehigh has therefore made a good showing in comparison with Lackawanna, a fact borne out by the cost per train mile of 38 cents for Lackawanna and 39 cents for Lehigh. This is another illustration where cost per train mile affords a better comparative unit than cost per mile operated or percentage of operating revenue.

Maintenance of equipment.—Maintenance of equipment comprises mainly repairs, retirements, and depreciation of locomotives, passenger trains and freight trains. The chief items are:

Steam locomotives—repairs	\$2,426,570	36.42%
“ “ —retirements	23,120	.35
“ “ —depreciation	167,467	2.51
Freight Cars—repairs	2,829,036	42.46
“ “ —retirements	127,365	1.91
“ “ —depreciation	372,144	5.59
Passenger cars—repairs	212,711	3.19
“ “ —retirements	15,260	.23
“ “ —depreciation	53,342	.82
Miscellaneous	434,216	6.52
Total	\$6,662,231	100.00%

Provisions for maintenance of equipment should be carefully studied. Equipment is the rolling stock—the source of all profits. A favorite but costly method of keeping down operating expenses is to cut down equipment maintenance. A policy of this nature will eventually bring the road equipment into poor condition and the earnings will be reduced either through a shortage of serviceable cars or

through charges for the hire of the equipment of other roads.

Equipment maintenance expense is largely determined by the volume of traffic. Pennsylvania and Erie were obliged to spend a larger amount per train mile during 1917 than Baltimore and Ohio and New York Central, chiefly because of the greater density of traffic. Pennsylvania had a freight traffic density of 6,119,749; Erie 4,644,087; New York Central 3,990,291, and Baltimore and Ohio 3,633,372. Pittsburgh and Lake Erie, with a record freight traffic density of 11,336,781, spent \$1.54 per train mile for maintenance of equipment.

A list is appended which shows total expenditures per mile for maintenance of way, structures, and equipment for representative roads during the recent years:

COMPARATIVE TABLE OF TOTAL COST PER MILE FOR
MAINTENANCE OF WAY, STRUCTURE,
AND EQUIPMENT*

Road	1920	1921	1922	1923
B. & M.	\$15,631	\$12,854	\$12,142	\$13,560
New Haven	28,858	22,553	21,414	24,280
New York Central	25,509	16,843	19,587	22,895
Pennsylvania	35,971	26,323	23,173	26,220
B. & O.	20,041	10,946	13,768	17,880
C. & O.	15,377	12,645	12,981	16,280
Southern	7,587	6,123	5,625	7,190
Burlington	7,826	6,751	6,015	6,660
St. Paul	6,624	4,952	5,148	5,580
Atchison	9,658	7,210	7,457	7,770
Union Pacific	8,990	7,297	7,031	7,650
Southern Pacific	9,686	8,169	7,635	8,160

*From *Comparative Analysis of Steam Railroads*, prepared by J. G. White & Co., New York.

Traffic expenses.—The traffic expenses of a railroad include advertising expenses, memberships in traffic associations, cost of maintaining industrial bureaus and so forth. This expense is very small relatively, comprising under

normal conditions but one or two per cent of operating revenues. The term is misleading to the extent that it may lead to the belief that it should include all the costs of the traffic. In reality it merely represents the cost of getting the traffic rather than the expense of transporting it.

Transportation expenses.—Transportation expenses include the cost of fuel and the wages of the operating employees. These expenses comprise about one-half of all operating charges. The costs of fuel and labor vary with general business conditions. During pre-war years, transportation expenses on the average took about 38 cents out of each dollar of revenue. As a result of the large increases in cost during and following the World War, the relative cost for transportation increased to 47 cents in 1918 and to 55 cents in 1920. The rapid deflation which began in 1920 partially corrected this situation, so that in 1922 transportation expenses required but 41 cents out of each dollar of revenue.

As this expense is almost entirely beyond the control of the management, it affects all roads quite uniformly. It is the most important element of operating expenses and should be studied as affecting the income of all roads, rather than as a basis of comparison between separate companies.

Miscellaneous operations.—Miscellaneous operations include such items as dining and buffet service on trains, ferry lines, cab service, and so forth. The expense is small relatively but an interesting fact is that the revenues from such sources are limited and usually result in a loss to the road. The road profits through increased traffic as a result of the convenience to the patrons.

General expenses.—Salaries of general officers and clerks, legal expenses, office supplies, and pensions comprise the largest items of general expense. The amount

should seldom if ever exceed 5 per cent of operating revenues.

Net operating revenues.—The difference between the operating revenue and the operating expense is the net operating revenue. This amount is always implied when operating ratio is mentioned, as it is really in the percentage of operating revenues that remains after expenses, that the profits are located. From net operating revenue, taxes are deducted and the residue constitutes net railway operating income.

Hire of equipment.—The equipment or rolling stock of one road is often in use on other lines. This condition may arise through the transfer of loaded freight or passenger cars from one line to a connecting line, or it may come through the actual borrowing of equipment to meet requirements. The road which owns the equipment is paid a rent or "hire" on a per diem basis, while the equipment is in the possession of another road. All roads have charges and credits to this account and under normal conditions one should offset the other. If, however, one road owns inadequate or insufficient equipment to meet its needs, it frequently retains equipment of other lines and must therefore pay large amounts for hire of equipment. Charges for hire of equipment in large excess of credits indicate either "skimped" maintenance or insufficient rolling-stock. Charges for hire of equipment are included in Deductions from Gross Income. Credits are included in Non-Operating Income.

Non-operating income.—Practically all American railroads have income from sources other than operations. The largest source is usually from investments in other companies. A "community of interest" spirit has caused many roads to purchase interests in competitive lines, not to gain control, but rather to maintain friendly relations and avoid

costly rate-wars. Pennsylvania has purchased extensively in Baltimore and Ohio and New York Central in the Reading, for these reasons. Interests in non-competitive lines are purchased to influence traffic. Pennsylvania's purchase of Long Island, and of large interests in New Haven, and Union Pacific's holding in Illinois Central are examples of this nature. It is well to remember that such investments are seldom made for true investment purposes but rather are actuated by a different motive. A large portion of the earnings of the roads which operate in coal-producing sections is derived from coal mines owned by the roads. The income derived from the coal departments of the Delaware and Hudson, the Erie, the Lackawanna, and the Lehigh Valley comprises an appreciable percentage of total earnings.

	Operating income %	Non-operating income %
COAL ROADS		
Delaware & Hudson.....	54.09	45.91
Lackawanna	64.43	35.57
Lehigh Valley	64.94	35.06
TRUNK LINES		
Baltimore & Ohio.....	80.25	19.75
New York Central	73.81	26.19
Pennsylvania	67.08	32.92
Erie	52.48	47.52
GRAIN LINES		
Atchison	92.55	7.45
St. Paul	92.37	7.63
Burlington	91.84	8.16
Rock Island	93.07	6.93
NEW ENGLAND LINES		
New Haven	73.83	26.17
Boston & Maine	89.15	10.85
SOUTHERN LINES		
Southern	88.66	11.34
Atlantic Coast Line	69.88	30.12
Seaboard Air Line	94.87	5.13
CENTRAL LINES		
Illinois Central	69.91	30.09
Wabash	94.85	5.15

	Operating income	Non-operating income
SOUTHWESTERN LINES		
Missouri Pacific	93.40	6.60
Missouri, Kansas & Texas	93.31	6.69
Southern Pacific	85.80	14.20

The preceding list shows the percentages of total income which came from operating and from non-operating sources during a recent year. In every instance where more than ten per cent of the total income is derived from sources other than operations, inquiry should be made into the nature of the sources. Investment in a single railroad is one thing, investment in a group of railroads is another, and investment in a coal mine still a third. The investor should know what he is buying.

Deductions from gross income.—Deductions from gross income are commonly known as fixed charges. In the final analysis they represent interest on borrowed capital which naturally must be paid before any profits are realized by the stockholders. Fixed charges include the rentals for leased lines, dividends on guaranteed stocks of other companies, and interest on the indebtedness of the road itself. Rentals for leased lines and dividends on guaranteed stock partake somewhat of the nature of operating expenses and should be deducted before determining the amount available for interest charges.

The ratio between the total fixed charges and the total gross income is known as the financial risk and the difference between the two is the margin of safety. Both financial risk and margin of safety apply to securities of leased lines and to bond interest and do not refer to dividends on the stock of the company.

In view of the fact that securities bearing fixed charges comprise one-half of the outstanding railway securities in

this country, it is not surprising to find that fixed charges normally consume more than 50 per cent of gross income. Under average conditions, fixed charges will consume up to 66 per cent of gross earnings or, stated conversely, fixed charges are earned one and one-half times. Because of this, the current belief is that a railroad bond should earn its interest at least 1.5 times to be a good investment.

The following list shows the percentage of gross income consumed in fixed charges and remaining for dividends for a recent year for the roads previously listed:

	Percentage consumed in fixed charges %	Percentage remaining for dividends %
COAL ROADS		
Delaware & Hudson	51.97	48.03
Lackawanna	37.88	62.12
Lehigh Valley	50.61	49.39
TRUNK LINES		
Baltimore & Ohio	75.32	24.68
New York Central	77.08	22.92
Pennsylvania	40.47	59.53
Erie	95.37	4.63
GRAIN LINES		
Atchison	26.89	73.11
St. Paul	81.26	18.74
Burlington	27.08	72.92
Rock Island	63.50	36.50
NEW ENGLAND LINES		
New Haven	91.34	8.66
Boston & Maine	103.69	—3.69
SOUTHERN LINES		
Southern	52.91	47.09
Atlantic Coast Line	36.98	63.02
Seaboard Air Line	88.80	11.20
CENTRAL LINES		
Illinois Central	43.36	56.64
Wabash	62.47	37.53
SOUTHWESTERN LINES		
Missouri Pacific	59.80	40.20
Missouri, Kansas & Texas	84.33	15.67
Southern Pacific	36.52	63.48

If the roads in the previous tabulation were arranged in order starting with the one having the highest percentage of income remaining for dividends coming first and the lowest last, the arrangement would fairly well indicate the relative rank of their securities as investments. Atchison, Burlington, Southern Pacific, Lackawanna and Pennsylvania are close to the top, with Katy, Seaboard, New Haven, Erie, and Boston and Maine at the bottom.

Net income.—The balance remaining after the payment of fixed charges is the net income and is carried to the profit and loss surplus of the company under ordinary conditions. In some cases, a certain part is appropriated to a special account such as Additions and Replacements, Fuel Reserve or Sinking Funds. Such action should be carefully studied as it leads to the creation of secret reserves. The profit and loss surplus of Chicago, Burlington & Quincy was ostensibly \$115,604,586 on December 31, 1917. In reality it was \$227,286,002 as shown by the following tabulation:

Additions to property	\$ 59,917,926
Surplus reserves	49,205,449
Profit and loss surplus	118,162,627
Total	\$227,286,002

Dividends are paid to stockholders out of surplus earnings. It would be poor policy to pay out all surplus earnings, as provision should be made for future emergencies. The road which adopts a conservative position in this regard and is more interested in paying a definite amount at regular intervals, is preferable to another road which may distribute an equivalent amount at irregular intervals. Numerous cases have existed where the dividends of some roads have been less than might reasonably be expected, but it can be safely said the occasions have been more numerous where

large dividends have been paid when they should have been either materially reduced or omitted. It is not enough that the road is paying a good dividend; the more important question is, can it afford to do so? If not, the investor may rest assured it will not be long continued unless something very fortunate happens to the company. As a rule, the happenings in such cases are unfortunate.

The balance sheet.—The balance sheet of a railroad shows its financial position on a given day. The asset side includes the cost of the road, outside investments, cash and receivable accounts. The liability side includes the stock and bonds outstanding, the payable accounts, the reserves, and surplus. The following illustration shows in condensed form a recent balance sheet of the New York Central:

ASSETS

Road and equipment	\$ 730,386,521
Improvements in leased property.....	96,903,574
Miscellaneous physical property	8,701,439
Investments in affiliated companies	201,653,097
Other investments	47,503,409
Current assets	48,916,806
Deferred assets	74,477,122
Unadjusted debts	8,994,337
Total assets	\$1,217,636,306

LIABILITIES AND CAPITAL

Capital stock	\$ 249,597,355
Funded debt	688,285,201
Current liabilities	73,342,111
Deferred liabilities	73,927,080
Unadjusted credits	50,703,789
Corporate surplus	81,680,770
Total liabilities and capital	\$1,217,536,306

Importance of the balance sheet.—The writer is unable to agree with those authorities on the subject who state

that the balance sheet is the most important item in a railroad report. The balance sheet should be the most important part of a railroad report, but in the form it is now given out, it almost defies intelligent analysis. The largest item on the asset side and undoubtedly the crux of the statement itself is the cost of road and equipment, which is given in one huge, undigested lump sum. What it includes may only be guessed at. The balance sheet is therefore of chief value for comparative purposes, either between different roads, or different periods of the same road.

Cost of road and equipment.—Beyond determining the amount invested in each of the two items it is usually impossible to analyze this account. The case of the Atchison is well known. This road's Cost of Road and Equipment account was at one time listed at \$95,755,207 and a special examination disclosed that over \$40,000,000 represented blue sky items such as discount on bonds, and reorganization expenses. A good method of testing this account is to reduce the amount to a "per mile operated" basis and compare with other roads in the same section. Further additions to this account are now subject to the restrictions of the Interstate Commerce Commission.

Investments.—The second largest item on the asset side is usually the Investments account. The annual report generally lists the component items separately and affords an excellent opportunity for analysis. A summary of the two Investments accounts of the New York Central balance sheet previously stated shows the following:

Stock	\$164,587,371
Bonds	13,593,918
Notes	55,280,952
Advances	15,681,500
Miscellaneous	12,765
Total	\$249,156,506

Unfortunately the income statement does not give the income from each of these classes separately, except that from stock. Dividends received amounted to \$6,379,729, equivalent to an approximate yield of 3.90 per cent. This is a very poor yield, considering the class of securities, and reflects a large overvaluation on the books. On a 5 per cent basis, these stocks represent a value of but \$127,590,500.

The item of investments may be undervalued as well as overvalued. The balance sheet of the Northern Pacific on December 31, 1918, included in investments, \$109,235,888, representing the cost of a half interest in the Chicago, Burlington and Quincy. But the total book value of the stock and surplus of Burlington on that date was \$338,125,102, one-half of which is \$169,062,551, showing an undervaluation of about \$60,000,000 on the Northern Pacific books.

Current assets.—Current assets represent the cash and accounts receivable of the road. Accounts receivable of a railroad have the same significance as those of other industries, the creditors being other roads and agents. This item is of chief interest in connection with the current liabilities. Both accounts are kept on the accrual basis, as the items are credited or charged as incurred rather than when paid. Railroads should show a fairly large margin of current assets in excess of current liabilities, but the stability of railroad income renders this a less important factor than in other lines. Current liabilities may equal and often exceed current assets without arousing any great cause for criticism. The present tendency to class notes and bonds apart from current liabilities is somewhat regrettable. A bond or a note having less than one year to maturity is just as truly a current liability as any other obligation. The maturity dates of these items should be ascertained for this reason. An excess of two million dollars in current assets

may amount to little if five million dollars in notes is about to mature.

Capitalization.—The capitalization of a railroad is generally considered to represent its outstanding stocks and bonds. The fact has been previously mentioned that the proportion for the entire country is about 45 per cent stocks to 55 per cent bonds. A ratio of this kind is possible only with enterprises having a stable income. If the ratio were reversed, it would be far better for both the road and the investors. Unfortunately most roads have been obliged to finance recent expansion through the sale of bonds rather than through stocks. The increase in bond issues raises the total fixed charges and lowers the margin of safety. The great strength of such roads as Lackawanna and Atchison is due in no small measure to their low ratio of bonds to stock.

Net capitalization is a term used to determine the actual capital involved in the actual operation of the road. It is determined by adding the stocks, bonds, outstanding indebtedness, and capitalized rentals, and deducting the amount invested outside of the road. Capitalization of rentals is necessary, as the balance sheet of the operating road does not include the capital of the lessor road. The general practice is to divide the annual rentals by 5 per cent to determine the approximate capital of the lessor roads.

The relative net capitalization of representative roads in 1922 was as follows:

Company	Bonds	Stock
	%	%
New York Central	74	26
Baltimore & Ohio	71	29
New Haven	66	34
Rock Island	65	35
St. Paul	64	36
Delaware & Hudson	62	38
Southern	60	40

Company	Bonds	Stock
	%	%
Boston & Maine	58	42
Erie	58	42
Southern Pacific	57	43
Union Pacific	55	45
Pennsylvania	54	46
Atchison	45	55
Reading	45	55
Virginian	40	60
Pere Marquette	38	62
Wabash	36	64
Lackawanna	22	78

Surplus.—The profit and loss surplus represents the amount of accumulated surplus earnings. The investor should remember that the amount of the surplus is not free cash in the hands of the road but has been “ploughed” back into the property. Needless to say, the amount of the surplus depends entirely upon the valuation given the other items in the balance sheet. In the case of Atchison previously referred to, the surplus was overstated forty million dollars, and in the case of Northern Pacific, it was understated sixty million. At the present time Burlington’s surplus is understated by over \$100,000,000.

Investors should not overestimate the importance of a large surplus account. While it is true that dividends may be paid from accumulated surplus of previous periods when current earnings are below normal, no assurance exists that such a policy will be pursued by the company. The surplus is not in cash but represents reinvestment in property and therefore cannot conveniently be distributed. Moreover, companies have a reluctance to continue dividends when current earnings are not sufficient to cover the payment, irrespective of the condition of the Surplus account. In 1922, Northern Pacific reduced its dividend rate from 7 to 5 per cent because current earnings were poor, although the Surplus account was sufficient to warrant the continuance of the established rate for many years. About the same time

Pennsylvania reduced its rate from 6 to 4 per cent and later restored the 6 per cent rate when earnings improved.

Consolidations.—One of the most interesting provisions of the Transportation Act of 1920 was that pertaining to consolidation. The Interstate Commerce Commission is authorized to prepare a plan for the general consolidation into relatively few systems of the many separate operating roads. The motive is to gain the advantages which the country would enjoy from efficient competitive operation, with all roads strong and prosperous. Under the tentative plan of the Commission, weaker roads would be merged with stronger roads to the advantage of both. Rates would be set to give a fair return upon the value of the combined properties. The resources and good management of the strong road would greatly help increase the earning power of the weak road.

The Federal "recapture of earnings" provision of the Act should encourage consolidations. A strong company with property valuation of \$10,000,000 may be earning \$1,000,000 in a given year. As 50 per cent of the excess over a 6 per cent return must be paid to the Government, a loss of \$200,000 is thereby suffered. A weak company with equal property value may earn but \$100,000 during the year, or considerably less than the 6 per cent criterion, thereby creating a "no recapture" condition. A merger of the two roads, even if earnings were not increased, would show \$1,100,000 earned upon a property value of \$20,000,000, or less than 6 per cent. Such a consolidation would have saved \$200,000 for that year to the prosperous company.

The chief advantages resulting from consolidations are as follows:

1. Development of more uniformly strong and stable railroad systems.

2. Simplified and improved rate regulation.
3. Economies in construction, operation, maintenance, and accounting.
4. Improved car service and routing of traffic.
5. Preservation of competition in service.

The disadvantages lie chiefly in the field of practical application. The strong roads are in a position to dictate terms, and have a natural reluctance to impair their earning power by adding relatively unprofitable lines. Progress in this direction will be slow, but a tendency toward consolidation is practically certain. Some consolidations have already taken place and others are in process. From the viewpoint of the investor, it is a wholesome development.

The railroad dollar.—A summary of the discussion in the present chapter may be offered in the form of an analysis of the normal railroad dollar of revenue where it comes from and where it goes, when the company is enjoying the prosperity essential for a good rating of its securities.

The source of the railroad dollar is as follows: 70 cents from freight, 25 cents from passengers, and 5 cents from miscellaneous channels such as mails and express.

The distribution of the dollar should be somewhat as follows: 75 cents is for operating expenses of which 30 cents is for maintenance of way, structures, and equipment; 40 cents is for fuel and wages, and 5 cents is for miscellaneous expenditures; 10 cents is for taxes and rents, and 15 cents is for security-holders—bond interest, dividends on stock, and surplus appropriations.

CHAPTER IX

PUBLIC UTILITY SECURITIES

The public utility field.—In the broad sense of the term, a public utility enterprise is one which supplies a product or a service necessary to the welfare of the people. In the popular sense, a more restricted meaning prevails. Food, clothing, and shelter are the three great essentials of life, yet the enterprises which supply these commodities are not regarded as public utilities. Advancing living standards include necessities beyond the basic perquisites. The distribution of water, light, heat, and power, and the agencies of transportation and communication are regarded as public utility enterprises in that they supply a product or a service which is practically indispensable to the general public.

The public utility field has peculiar characteristics. Each enterprise has a franchise to use public property for the benefit of private interests. This franchise usually gives monopoly rights to the company. The franchise further requires that the company supply service to all persons who apply and are willing and ready to pay the reasonable cost of the service.

The kinds of companies which are usually regarded as comprising the public utility group, excluding water companies, and the approximate invested capital in the United States in each in 1930, include the following:

Electric power and light.....	\$10,000,000,000
Electric railway	4,000,000,000
Telephone and telegraph	4,000,000,000
Gas	4,000,000,000

Total	\$22,000,000,000
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The total of \$22,000,000,000 is relatively close to the total of \$24,000,000,000 invested in the steam railroads. The utilities have had a much more rapid growth, however, and the time seems close at hand when they will represent the greater invested capital.

Inherent advantages.—Public utility enterprises enjoy many inherent advantages over other private undertakings. These advantages are partly natural and partly artificial, but they combine to make securities in these fields increasingly attractive to investors.

1. *Essential industry.*—The companies are supplying a necessity of life for which practically no substitution is possible.

2. *No competition.*—The franchises under which the companies operate tend to prevent competitors from entering the field.

3. *Assured progress.*—The essential nature of the enterprise and the freedom from competition assure investors that the company is bound to keep pace with the growth of the community.

4. *Stable earning power.*—As the demand for service is constant, varying but slightly with changing business conditions, the earning power is stable. It is not entirely accurate to say that “earnings are stable.” Actually earnings tend continually to increase, but always at the expense of additional capital. The rate of return is stable rather than the actual earnings.

5. *Fair return on capital.*—Under regulatory commissions in the various States, utility companies are permitted to set rates sufficiently high to give a fair return upon invested capital.

6. *Cash basis.*—Utility companies have substantially no losses for bad debts. The service charge is generally pro-

tected by a deposit and immediate disconnection follows unsecured defaults in payment.

7. *Small inventories.*—The inventory account of a public utility company rarely exceeds 10 per cent of the total assets, which compares with 20 to 80 per cent in industrial companies. Drastic changes in price levels, such as so adversely affected the industrials in 1920, have little effect upon utility inventory accounts.

8. *Customer ownership.*—Many of the utility companies are owned, at least partially, by customer stockholders. This condition helps the company by establishing more cordial relations with its customers and the public generally.

9. *Efficient management.*—Public utility companies are usually efficiently managed. Accurate accounting methods are enforced through uniform systems prescribed by the State commissions. Ownership of operating companies by strong holding companies gives the advantage of skilled supervision.

Many of these advantages are discussed at greater length in succeeding paragraphs, but they are summarized at this point to afford a survey of the reasons for the increasing popularity of utilities as investments.

Public service commissions.—With the exception of Delaware, every State in the United States has a public utility commission. These commissions are composed of a small group of men, rarely exceeding ten, appointed by the State to supervise the operation of the utilities in their respective States. The powers and duties vary in the different States but in general it may be stated that the utilities are required to offer a satisfactory service at a rate which will give but not exceed a fair return upon the capital invested. From an investment viewpoint, the work of the commissions is of chief interest to the extent that it assures a fair return upon capital. With this objective, the commissions

wisely require approval upon the issuance of securities by the utilities. In New York State, public service corporations must secure the authority of the Commission before issuing any stocks, bonds, or evidences of indebtedness running over twelve months. The proceeds from the issuance must be for one of the following purposes:

1. Acquisition of property.
2. Construction of facilities.
3. Improvement or maintenance of service.
4. Payment or refunding of obligations.
5. Reimbursement of moneys expended from income.

In granting its approval for securities to be issued for one of these purposes, the Commission takes into consideration: (1) the purposes to which the proceeds are to be applied; (2) the amount reasonably necessary for such purposes; (3) the character of the securities proposed; (4) whether proposed construction infringes upon vested rights of others; and (5) whether there is any reasonable prospect of a fair return upon the investment proposed, to the end that securities having doubtful value may not be issued.

While it is well known that the approval of a public utility commission does not carry any stated guarantee, it is nevertheless a fact that a certain warrant of safety is at least implied and most commissions are scrupulous in granting approvals for the sale of securities. The investor is safeguarded in two ways. The individual who already has capital invested in one utility is assured that his investment will be protected against both uneconomical extension by his own company and unwarranted competition by new enterprises. The person who seeks an investment is pro-

tected against securities in utility undertakings which have a poor chance of success.

The work of the State commissions is advantageous from the viewpoint of the public, the company, and the investor. The public is assured of continuous and satisfactory service at reasonable cost. The company is protected from unfair competition, is assured a fair return upon capital invested, is provided with standards of service, and gains in earnings through reduced operating costs induced by required improvements. The investor is helped in many ways. Investment in uneconomic enterprises is prevented. Stability of earnings is insured. Uniform accounting methods provide fair standards of comparison between different companies.

Holding companies.—One of the outstanding features of the public utility field is the prevalence of holding companies. These companies, as represented by Standard Gas and Electric, Electric Bond and Share, North American, and Cities Service, do not directly conduct operations but simply hold the securities of the operating companies. The purpose of the modern holding company is not to exploit the resources of the operating companies but rather to gain through helping the local companies to give adequate service and meet the growing demand of the community. The economies are obvious. Materials are purchased in larger quantities and at lower prices. Efficient operating management is assured through supervision by able executives. Excellent legal talent—always essential in utility enterprises—is made available. Financial assistance at minimum cost is provided at a time when the small independent company might find it almost impossible to receive accommodation.

Analysis of the investment position of the securities of a holding company is not an easy task. The assets are not

physical properties but rather the stocks and bonds of the operating companies. To appraise the value of the securities of the North American company requires separate evaluation of the great electric companies supplying Cleveland, Milwaukee, Detroit, and St. Louis. The operating properties of the Standard Gas and Electric Company are located in no less than sixteen States. While such a distribution of assets makes analysis difficult, it nevertheless greatly strengthens the earning power of the company. Unfavorable developments in any given section affect earnings of the holding company only to a limited extent. Securities of holding companies are in themselves a wide distribution of risk.

The inference should not be, however, that securities of holding companies are invariably better than those of operating companies. Indeed, the converse is more often true. Holding companies, lacking physical assets, cannot issue mortgage bonds and must resort either to collateral trust notes or to their own stocks secured by nothing but the earning power of securities owned. The argument is advanced that the collateral notes are secured by the mortgage bonds of the operating companies and are therefore equivalent to mortgage bonds. The statement is only partially true, since a large part of the collateral is the stock of the operating companies and not the mortgage bonds. By and large, the mortgage bonds of the operating companies afford better investment opportunity than the collateral bonds of the holding companies.

Franchises.—The nature of the franchises under which a public utility company operates is quite important. If, as in the case of the New York City tractions, the terms are unduly restrictive, the investment position of the securities suffers. If, as in the case of the average electric power

company in the Central States, the terms are mutually fair, the securities are highly regarded.

Franchises may be limited or indeterminate, both with respect to duration and to tariffs. The older type, the limited, was valid for a relatively short period, gave exclusive rights, and fixed a maximum rate. For example, a traction company would receive a franchise for 20 years at a 5-cent fare. This type was unsatisfactory, both because of difficulties, political and economic, in securing a renewal, and in making a profit when operating expenses increased enormously as during the World War period.

The modern type of franchise is of the indeterminate kind. The flexibility applies to both time and rates. The charter continues as long as satisfactory service is rendered. The rates are adjusted in accordance with the actual cost of service.

The traction companies have undoubtedly suffered more severely from restrictive franchises than has any other class of utilities. The other companies have been far more successful in securing higher rates than the tractions have been in getting away from the 5-cent fare. Franchise requirements in other respects, such as those relating to the paving of streets, hurt the tractions almost as much as the fare limitation.

The State commissions have shown a wholesome tendency to relieve the utilities of unreasonably restrictive franchise requirements, especially when a continuance of these requirements would be tantamount to confiscation. But the intelligent investor in utility securities invests only in those companies not harmed by unduly restrictive franchises.

Public ownership.—One of the inherent disadvantages in utility securities has long been the prospect of public ownership. No small body of opinion holds that the public utility enterprises should be owned and operated by the

people at large. However, the results which have come from actual public ownership do not lead one to believe that the present form of ownership is inferior. Numerous instances could of course be cited of efficiency in public management, but in the majority of cases private ownership seems to give more satisfactory results. Save in the case of water supply, the majority opinion inclines toward private ownership and operation of the so-called public utilities.

In a manner far different from the original plan, however, public ownership is actually becoming prevalent throughout the utility field. By means of the customer-ownership plan, the great private utility companies are rapidly becoming publicly owned. Throughout the country, customers of utility companies are being invited to subscribe to the stock of the companies. The plan originated with the Pacific Gas and Electric Company in 1914. In the course of nine years the company secured over 26,000 subscriptions for nearly \$36,000,000 in stock. In 1924 it was estimated that over 600,000 customers of the public utility companies in the United States had invested over \$500,000,000 in stocks of the various companies.

Many advantages are derived from this development. Public ownership is less of a problem. The companies gain through the establishment of a sound financial plan of capitalization and through more cordial public relations. The customers gain through better service and an excellent opportunity profitably to invest savings. The general public gains through the local productive employment of large sums which might otherwise have been diverted into speculative promotions of doubtful merit.

The load factor.—The load factor of a utility company is the percentage relationship between the average hourly demand during a single day and the maximum demand recorded during the same twenty-four hours. The

capacity factor is the percentage of the average demand to the actual capacity of the plant. Peak load is the maximum demand actually required. Connected load is the maximum demand which might potentially be called for at one time. The peak load rarely exceeds two-thirds of the connected load. The average load seldom exceeds three-fifths of the peak load. The capacity load is usually at least 10 per cent above the peak load.

An electric power company with a connected load of 30,000 kilowatts, owing to the unlikelihood of all connected power being demanded simultaneously, may have an average load for the day of only 9,000 kilowatts, and a load factor of 50 per cent. An installed generating capacity of 9,000 kilowatts would be adequate to meet the average demand, but would fall far short of the peak demand. Accordingly the generating capacity must be provided to meet the peak and not the average demand. In this case, installed capacity of at least 20,000 kilowatts would be required to take care of an average 8,000 kilowatt demand. It is apparent that a considerable part of the equipment both in machinery and men will be idle a large part of each day. Such idleness is economic waste and if particularly prolonged may more than offset the earnings of the active hours.

Accordingly, all utility companies constantly strive to improve the load factor by increasing service in off-peak hours. That company is more profitable which shows not the larger gross revenue but the better load factor. This is particularly true of electric light and power, telephone and telegraph, and street railway companies, since their services and products cannot be stored but must be produced at the moment of utilization. It is also true, but to a smaller extent, of the other utility companies. Those companies which have the broadest distribution of customers usually have the

best load factor. Accordingly the larger companies are generally relatively more profitable than the smaller.

Electric light and power companies.— The companies which supply electricity publicly are known as “central stations” since they represent a central point for the generation of the energy. The industry has had a rapid growth as it was only in 1882 that commercial distribution was started. At first electricity was used solely for lighting. In 1888, it was applied to street railway transportation and by about 1900 was being used for general industrial power. It is also used for heating, but save in special cases where high, constant, and accurate temperatures are necessary or where other forms of heating are not convenient, electricity has not proved economical.

An electrical age is at hand. Nearly one-half of the homes in the United States are supplied with electricity from the central stations. Over 60 per cent of the power used in manufacturing in this country is electrically supplied. The electrification of the steam railroads is just beginning, having been delayed for many years by lack of capital.

As the cost of electricity depends upon the quantity produced and the uniformity of consumption, the general trend is toward central generation and away from private plants. Users find it more economical to buy power than to generate it in their own plants. As a consequence, the electric light and power companies are enjoying a remarkable growth. For the past decade, the average rate of growth has been 10 per cent per annum compounded. This growth has naturally greatly increased the earnings of the companies but has also compelled constant additions to plant and equipment. The central stations are obliged to invest over \$500,000,000 yearly in extensions just to keep pace with the increased demand.

Two kinds of central stations are found. A steam station derives its energy from the consumption of fuel, either coal or oil. A hydraulic station utilizes the water flow in the streams. Most hydro stations have auxiliary steam plants to take care of the load in excess of available water power. In the United States about two-thirds of the electricity comes from steam stations. The ratio is unlikely to decline owing to the inaccessibility of undeveloped water powers and the impracticability of transmitting power over long distances. Super-power projects under way, aim to interconnect the various stations to make reserve capacities available over a large territory. As super-power plans develop, the general tendency will be for the small stations to be eliminated by the more economical large plants.

Typical steam companies are Commonwealth Edison of Chicago, the Philadelphia Electric, and Cleveland Electric Illuminating. Representative hydro stations are the Niagara Falls Power, the Mississippi River Power, and Pennsylvania Water and Power. Combination plants include Alabama Power, Adirondack Power and Light, and the great California companies such as Pacific Gas and Electric and Southern California Edison.

Little difference may be noted between the earning power of the steam and hydro stations. The lower initial investment of the steam station is offset by the lower operating cost of the hydro station. Detroit Edison, a fuel station, in a recent year derived \$13,801,572 in gross revenue from an investment of \$55,062,004, whereas Montana Power, a hydro station, earned but \$7,558,741 gross from an investment of \$92,595,480. But Detroit Edison had an operating ratio of 67.18 per cent, compared with 32.72 per cent for Montana Power. There was accordingly no great difference in the net return on the capital invested.

The dividend record of representative electrical power

companies is almost amazing. The following companies have unbroken dividend records on their common stocks since the year stated:

Narragansett Elec. Lighting Co. (Providence).....	1886
Commonwealth Edison Co. (Chicago).....	1889
Edison Electric Illuminating Co. (Boston).....	1890
Brooklyn Edison Co.....	1900
Buffalo General Elec. Co.....	1900
Washington Water Power Co.....	1901
Philadelphia Electric Co.....	1903
New York Edison Co.....	1907

An excellent illustration of the stability of the earnings of electrical power companies is afforded from the records of the Northern States Power Co. for the five widely fluctuating years from 1918 through 1922:

Year	No. of Electric Customers	Gross Electric Revenue	Average Revenue per Customer
1918....	101,438	\$7,527,000	\$74.20
1919....	115,265	8,797,000	76.32
1920....	134,179	10,532,000	78.49
1921....	148,638	11,164,000	75.11
1922....	164,079	12,145,000	74.02

Gas companies.—The commercial distribution of gas began in the United States in 1816. For many years gas was used solely as an illuminant and its utilization for this purpose was confined to the larger centers of population. Gas stoves were introduced about 1880 and gas water heaters in 1890. The advent of electricity for lighting seriously threatened the gas industry which temporarily held its ground through the invention of the Welsbach burner. But eventually electricity became more popular and the gas industry devoted its efforts to the heating field in which it has more than held its own with electricity. Not only have the gas companies continued to prosper despite the competition of a strong rival, but they are growing almost as rapidly as their younger competitor. In 1900, just as electricity

was starting its rapid development, the output of manufactured gas in the United States was one hundred billion cubic feet; in 1924 it had increased to nearly four hundred billion. Gas is used now almost universally for heating purposes both in the home and shop, and appears to be in no danger of being supplanted by electricity as it is as clean and convenient and more economical.

In many cities, as illustrated in the cases of Consolidated Gas in New York, Consolidated Gas and Electric in Baltimore, Municipal Gas in Albany, and Pacific Gas and Electric in San Francisco, the same company supplies both electric and gas service. The securities of such companies naturally enjoy a somewhat better inherent position than those of companies operating in either field exclusively.

Prosperous gas companies are to be found in all parts of the country. Peoples Gas Light and Coke of Chicago is a good example, United Gas Improvement of Philadelphia is another, and Laclede Gas of St. Louis, Milwaukee Gas, Newark Gas, and Detroit City Gas are others.

Gas is derived from both natural and artificial sources. Of the companies engaged solely in the gas field, the distributors of artificial gas have had by far the more favorable record. Variations both in the quantity and quality of natural gas comprise a serious problem from which the manufactured gas companies are free. Natural gas does offer a most economical fuel, however, and its distribution has afforded substantial profits in the limited areas where it has been found.

Water companies.—Although the supplying of water is one of the most essential industries of a community, the investment securities of the companies in this field are quite limited in availability. The general tendency in this field is unmistakably toward public ownership, with the result that relatively few water supply systems are now

privately owned. Moreover, almost all of the private plants are comparatively small. The situation has thus been created wherein a most limited field for investment is found in a vitally essential industry. A few securities such as the Spring Valley Water First 5's of 1943, the Hackensack Water First 4's of 1952, the Indianapolis Water First & Refunding 4½'s of 1940, and the Alabama Water First & Refunding 6's of 1947, are very well and favorably known.

Electric railways.—Few industries have been so adversely affected since the beginning of the World War as the electric railways. This development is all the more interesting because of the almost uniform prosperity of pre-war years. Street cars drawn by horses and mules were in operation in the United States before the Civil War. Cable operation replaced the animals in 1873, and electricity replaced the cable operation in 1888. A universal fare of 5 cents with transfer privilege afforded the companies an ample margin of profit during the pre-war years. The 5-cent fare was likewise sufficient to permit the companies to bear burdensome franchise obligations such as street paving.

The close of the World War in 1918 found the average traction company in a precarious condition. The pre-war prosperity had been converted into a state of wide depression. Three developments were responsible for this change, namely, the automobile, the increase in operating expenses, and the stationary fare. The widespread use of the passenger automobile reduced the demand for traction service. The great increase in the cost of labor and materials caused a substantial increase in operating expenses. The stationary fare, fixed in the corporate franchise, prevented an increase in revenues to offset the increase in expenses. Defaults

in interest payments and suspension of dividends became a common occurrence. The values of all traction securities fell enormously. In New York City alone, the market value of the traction securities fell nearly \$500,000,000 between 1912 and 1922.

Since the close of the World War, the traction companies have regained some of the lost ground. The automobile is of course as great a deterrent as ever, but lower labor and material costs, and more efficient methods of operation have reduced operating expenses. Rate increases have been granted in practically all cities. During the three years, 1918, 1919, 1920, no less than 96 companies with a mileage of 6,854 and outstanding securities amounting to \$890,000,000 were forced into receivership. In the following three years, 1921, 1922, and 1923, the comparative totals were 45 companies, 2,015 miles, and \$130,000,000, which was a great improvement.

Despite the betterment of recent years, the tractions have far to go to regain their investment popularity of a decade ago. Progress is being made in the right direction and an enlightened public opinion on cost and quality of service is encouraging. But candor compels the statement that for some time to come the traction securities will remain the weakest of the utility group. They are speculative as a class with but few exceptions such as the Cleveland Railway First 5's of 1931 and the Los Angeles Pacific First Refunding 4's of 1950. The average investor will do well to leave this field to those fully informed on the situation.

Telephone and telegraph companies.—The most notable feature of the telephone and telegraph field in the United States is the dominant position of the American Telephone and Telegraph Company. Through its operation of the long distance lines, its stock control of subsidiary

telephone companies in various parts of the country, and ownership of the Western Electric Company, it has gained preeminence in the field. Its total assets in 1926 exceeded \$3,250,000,000. For over 40 consecutive years it has paid dividends of at least 7½ per cent annually on its common stock. Interest charges on bond issues have invariably been earned with wide margins of safety. The securities of the subsidiary companies, such as New England Telephone and Telegraph, New York Telephone, Bell Telephone of Pennsylvania, Southern Bell Telephone, and Pacific Telephone and Telegraph, occupy a position only slightly less attractive than that of the parent company.

The International Telephone and Telegraph Corporation, which has acquired control of the Postal Telegraph and Commercial Cables, is rapidly gaining a predominant position in world-wide communication systems. The securities of this corporation have met with considerable investment popularity.

An explanatory financial statement.—Certain public utility companies have adopted a new form of income statement and balance sheet which elaborates the various items and which enables investors to study the accounts in the simplest form possible. The illustration given is from the year book of the Commonwealth Edison Company of Chicago for 1923.

INCOME AND EXPENSE ACCOUNT

This is a statement of the receipts and expenses of the Commonwealth Edison Company during the 12 months ended December 31, 1922.

ELECTRIC OPERATING REVENUES	\$43,107,955.71
(This was the total amount paid by or billed to the 610,303 customers for electric services. The customers increased 73,321 during the year.)	

ELECTRIC OPERATING EXPENSES	\$28,418,946.77
(This was the amount paid out as wages to the 7,098 employes, and the cost of coal, lamps and other materials and supplies used. It includes \$3,287,211.67 set aside to cover wear and tear on the plants and and machinery—depreciation.)	
NET ELECTRIC OPERATING REVENUES	\$14,687,008.94
(This was left for payment of expenses other than those having to do directly with production, distribution and general expenses as outlined in the items to follow.)	
UNCOLLECTIBLE OPERATING REVENUE	\$ 165,147.46
(As electric customers get credit with the company for a month, there are always some "dead beats." This includes them.)	
TAXES ASSIGNABLE TO ELECTRIC OPERATIONS ...	3,400,000.00
(These were direct taxes the company set aside for payment to the city, county, state, and federal governments on its income, plants and other property.)	
MUNICIPAL COMPENSATION	1,283,883.12
(Under its franchise the company pays 3 per cent of its total receipts from sales of electrical energy to the City of Chicago as a special tax. This was the amount the company set aside for that purpose.)	
TOTAL TAXES, MUNICIPAL COMPENSATION AND UNCOLLECTIBLE REVENUE WAS	\$ 4,849,030.58
(The Commonwealth Edison Company is the largest single payer of personal property taxes in Chicago. It is expected that its total direct taxes this year will be about \$700,000 greater than last year.)	
NET OPERATING INCOME	\$ 9,839,978.36
(The company had this amount left from revenue after paying plant operating expenses and taxes.)	
OTHER INCOME	\$ 687,564.92
(This was rental the company received for plants and other property not needed in operations, and from dividends and interest on securities owned, as well as interest on reserve funds.)	
GROSS INCOME	\$10,527,543.28
(This was the total left from all receipts for payment of interest, rentals and dividends.)	

DEDUCTIONS FROM GROSS INCOME\$ 1,202,946.50

(This was rent paid by the company for plants and machinery used but not owned, and includes interest paid on current loans.)

INTEREST ON FUNDED DEBT..... 3,048,222.01

(This was the interest on the company's mortgages—its bonds and collateral notes—outstanding in the hands of investors.)

AVAILABLE FOR DIVIDENDS\$ 6,276,374.77

(This was the amount left after payment of all bills, taxes and interest charges. It was from this amount that the stockholders were paid their dividends.)

DIVIDENDS PAID 4,602,416.00

(This was the amount of dividends paid to the stockholders. It was at the rate of 8 per cent. Dividends have been continuous since 1889.)

BALANCE CARRIED TO SURPLUS (Dec. 31, 1922) \$ 1,673,958.77

(Exercising proper business judgment, the company does not divide among its owners—the stockholders—all that it earns. It lays by part of the earnings as protection against unforeseen happenings and also for upbuilding of the property so that it may continue to be efficient and its dividend earning power kept intact.)

TOTAL SURPLUS OF THE COMPANY..... \$10,608,465.50

(This was the total amount the company had providently laid by over a course of years as protection for its stockholders and also as a guarantee of efficient service to its customers. Having faith in itself, this has been reinvested in the company's assets, and represents an added investment interest each stockholder has in the property beyond the \$100 par value of each share of stock. It represents an additional investment made for each stockholder, for instead of dividing the full profits through payment of larger dividends, part of this money is permitted to go back into the business. It is this re-invested surplus, as well as the good dividend rate, which gives Commonwealth Edison stock a much higher salable value than its \$100 par value, as it gives added security to the investment.)

BALANCE SHEET

(A statement of what the company owned and what it owed on
December 31, 1922)

ASSETS

(What the company owned)

PLANT AND EQUIPMENT\$130,005,164.29

(This was the conservative value of the eight great generating stations, the 64 sub-stations, the thousands of miles of underground and overhead electric cables, the 334 acres of land owned within the Chicago city limits and other property necessary to serve the city electrically.)

INVESTMENTS IN AFFILIATED COMPANIES 11,133,403.53

(This was the value of the 19-story skyscraper at 72 West Adams Street, occupied by the company's general offices and the Electric Shop; the value of the coal right holdings on 40,000 acres of Illinois and Indiana land from which the company's coal comes, and the Chicago and Illinois Midland Railroad, with its trackage and large equipment, which connects the company's mines with main line railroads. The building is held in the name of the Commercial National Safe Deposit Company, all of its stock being owned by the Commonwealth Edison Company.)

OTHER INVESTMENTS 6,479,352.63

(This represented miscellaneous investments including investments in companies who are large consumers of Edison Company power.)

SECURITIES ISSUED—HELD IN TREASURY 268,500.00

(This represented stock set aside for sale to the trustees of the Employees' Saving Fund.)

TOTAL INVESTMENT \$147,886,420.45

(This was the total of the four above items.)

CASH\$ 3,593,392.67

(This money was in the bank.)

SPECIAL DEPOSITS 8,760.09

(This little item covered amounts that had been advanced in connection with improvement work and would be refunded.)

LOANS AND NOTES RECEIVABLE	\$ 226,081.51	
(This item includes notes given the company in connection with large wiring or motor jobs or for material.)		
ACCOUNTS RECEIVABLE	6,292,809.90	
(This was money the company had coming from its customers in the natural course of business at the end of the year. This includes the accounts also of wholesale and retail merchandise customers.)		
INTEREST, DIVIDENDS AND RENTS RECEIVABLE...	135,451.32	
(This was moneys accrued, but not due, from rentals of property and as dividends or interest on securities owned by the company.)		
MATERIALS AND SUPPLIES	1,938,356.95	
(This was the value of supplies in the general warehouse at the end of 1922, and the stock of the Electric Shop, which is the largest electric appliance store in the world.)		
FUEL (coal in storage)	1,384,632.63	
(Inasmuch as continuous 24-hour, 365 days a year, electric light and power service is absolutely necessary to preserve the life of a great city like Chicago, the company must have a full and continuous supply of coal for the big generating plants. The company ordinarily has 60 to 70 days supply on hand as a safeguard against anything that might occur, such as a railroad tie-up, miners' strike, storms, etc. This supply is usually about 250,000 tons.)		
EMPLOYEES' WORKING FUND	39,117.00	
(This was the total of "petty cash" funds in the hands of cashiers and others having need for "working funds" in the performance of their duties.)		
TOTAL CURRENT ASSETS		\$13,618,602.70
(The total of the preceding eight items. These items are called "current" because they are "liquid"; they were either cash, or could be converted into it or its equivalent.)		
PREPAID INSURANCE	\$ 80,649.07	
(Insurance paid for in advance. The company partially insures itself by setting up a fund.)		

OTHER PREPAID ACCOUNTS	\$ 557,953.91
(This was moneys paid in advance of the completion of contracts or for the performance of service.)	
TOTAL PREPAID ACCOUNTS	\$ 638,602.98
(The total of the two previous items.)	
UNAMORTIZED DISCOUNT AND EXPENSE ON FUNDED DEBT	1,729,124.08
(This represents the difference between par and the amount received for bonds and notes and this discount will be absorbed in the expenses over the life of the bonds and notes.)	
JOBGING ACCOUNTS UNCOMPLETED	142,562.20
(This was money invested in uncompleted house wiring jobs, etc., and would be billed to customers when completed.)	
CLEARING OR APPORTIONMENT ACCOUNTS	112,661.18
(These included items having to do with work of various departments, and which had not found place in a definite account.)	
OTHER UNADJUSTED DEBTS	634,047.30
(This was miscellaneous assets which in the process of a going business had not been finally allocated.)	
TOTAL UNADJUSTED DEBTS	\$ 2,618,394.76
(This was the total of the unadjusted assets.)	
INSURANCE FUND	1,409,977.50
(As has been previously stated the company "carries" a large part of its own insurance by setting up a fund. This amount is computed on the basis of the premiums the company would have to pay for a proper amount of insurance and through creation of such a fund and investment of it in interest bearing securities, the company gets a considerable income in the form of interest which is added to the fund.)	
PROVIDENT FUNDS	769,711.15
(The Commonwealth Edison Company has always prided itself on the protection it gives its employes. There are pensions, a savings fund, employes' sick benefit fund and other such safeguards. This interest in employes stimulates loyalty, and devotion on the part of the many whose life-	

time work is in the service. The protection of employes as respects pensions is carried on through the provident funds.)

TOTAL RESERVE FUNDS	\$ 2,179,688.65
(This was the total of the insurance and provident funds.)	

TOTAL ASSETS	\$166,941,708.91
(This was the total value of the belongings of the company.)	

LIABILITIES

(What the company owed both to its stockholders, bondholders, and to all others.)

CAPITAL STOCK	\$60,000,000.00
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(This was the face value of the stock held by stockholders on Dec. 31, 1922, and represented the ownership of the property. The stockholders have other financial interest in the property in the surplus, as is explained in the income account.)

SUBSCRIPTIONS TO CAPITAL STOCK	21,000.00
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(This was moneys that had been paid the company by stockholders in payment for new stock offered Dec. 23, 1922.)

FUNDED DEBT:

(This included the mortgages on the plants and other equipment. These mortgages are in the form of bond issues and the bonds are widely held by investors.)

The bonds outstanding were:

FIVE PER CENT FIRST MORTGAGE GOLD BONDS, COMMONWEALTH EDISON Co.	45,774,000.00
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(These bonds were issued under a mortgage covering all of the property of the company, and fall due in 1943. These bonds can be paid off at any time the company desires prior to maturity at \$110 for each \$100 of bond.)

FIVE PER CENT FIRST MORTGAGE GOLD BONDS, COMMONWEALTH ELECTRIC COMPANY	8,000,000.00
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(These bonds are those of the old electric company with whom a large number of other companies have been consolidated so as to give Chicago its single great electric company. These securities are similar to the larger bond issue and likewise mature in 1943.)

SIX PER CENT FIRST MORTGAGE GOLD
BONDS, COMMONWEALTH EDISON Co.\$6,000,000.00

(These bonds were sold in 1921 and the money was used in connection with the building of the new Calumet generating station. These bonds mature in 1943.)

TOTAL CAPITAL LIABILITIES	\$119,795,000.00
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(This represented the par value (the face value as given on the stock and bonds) of of the stock outstanding and the bonds outstanding.)

*LOANS AND NOTES PAYABLE.....	4,500,000.00
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(A going business often needs money for various things it is doing and does not want to "pinch" itself by drawing on its own resources, so it obtains temporary loans at the bank.)

ACCOUNTS PAYABLE	1,770,156.61
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(The company's business is a continuous one, day and night, every day in the year. Naturally it never has collected in all owing it, nor paid all of its bills at the end of the year, because there isn't any end. This item represents materials and supplies of various sorts that had been purchased but in the natural course hadn't been paid for when the report was made.)

CUSTOMERS' DEPOSITS	850,609.64
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(This was the amount held by the company that had been put up by customers as guarantees, either for meters or in connection with construction work.)

OTHER CURRENT LIABILITIES	638,857.27
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(This included a collection of items covering cost of production of coal, transportation and other operations for which invoice had not yet been received.)

TOTAL CURRENT LIABILITIES	\$ 7,759,623.52
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(This was the total of debts of this character in process of being paid.)

INTEREST ACCRUED	1,059,409.33
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(Every month the company charges up against receipts that month's interest due on its bonds—its mortgages—so that when the interest day comes around the money will be immediately available. This was

*Subsequent to Dec. 31, 1922 the bank loans amounting to \$4,500,000 were paid off.

the amount of interest that had accrued, but was not due and had not been paid, on Dec. 31, 1922.)

TAXES ACCRUED\$ 3,287,077.02

(The company does the same thing relative to its taxes as to its interest. At the end of a year a considerable amount is always shown as charged up because taxes fall due for payment starting in March and running through the following nine months.)

MUNICIPAL COMPENSATION ACCRUED 912,903.05

(This is explained in the income account. It was the amount that had accrued up to the end of the year, but was not yet due for payment.)

TOTAL ACCRUED LIABILITIES \$ 5,259,389.40

(This was the total of the accumulated liabilities explained in the foregoing three items.)

PREMIUM ON FUNDED DEBT 19,522.52

(This was the amount above par the company has received in the sale of its bonds.)

OTHER UNADJUSTED CREDITS 1,232,181.93

(This represented payments received by the company where the transactions had not been completed.)

TOTAL UNADJUSTED CREDITS \$ 1,251,704.45

INSURANCE RESERVE 1,409,977.50

(This is a corresponding insurance item to that carried under the heading of assets. It is money that might have to be used in case of a fire or accident, and yet were nothing to occur, would remain unexpended.)

DEPRECIATION RESERVE 18,762,362.39

(Machinery wears out, becomes out of date and inefficient and there is constant wear and tear on buildings and equipment. To keep everything up to 100 per cent operating efficiency, money must be continually spent. This might be called the rejuvenation account, for it is the total of the money that up to Dec. 31, 1922, had gone back into the company's property and prevented it from becoming inefficient. It is insurance to the customers of continued good service, as well as protection of the earning capacity of the company's property for the stockholders.)

AMORTIZATION RESERVE\$ 1,325,475.00

(In the early years of the company it was necessary to educate the public to the use of electricity for light and power—get business—and this necessitated expenditure of considerable money. This reserve has been established to amortize this expense and in due course has been built up to the foregoing amount.)

LIABILITY FOR PROVIDENT FUNDS..... 769,711.15

(This was the employe pension fund reserve explained in a similar item under the heading of assets.)

TOTAL RESERVES \$22,267,526.04

(This was the total of the insurance, depreciation, amortization and provident funds reserves.)

SURPLUS UNAPPROPRIATED 10,608,465.50

(This was reinvested earnings, as explained in the income account.)

TOTAL LIABILITIES \$166,941,708.91

(This represented the total obligation of the company on Dec. 31, 1922, either for ordinary debts for fuel, materials, equipment, etc., or owing to bondholders, to the company itself or the stockholders. It balances with the total of assets.)

CHAPTER X

INDUSTRIAL SECURITIES.

The industrial field.—In a general way, all forms of private securities which are not included in the rails and the utilities are classed as industrials. The group is decidedly broad. All manufacturing, construction, trading, packing, mining, oil producing, shipping, and financial enterprises are included. With the rails and the utilities, the industries make the commercial life of the country. Less important in an investment sense than the former, the industries as a whole represent far greater capital investment, material and labor expenditure, and earning power. They give employment to millions of workers and their relative prosperity connotes an equal degree of commercial well-being to the entire community.

Since the field is so diverse, general statements concerning all securities embraced in the classification can be made only in a limited sense. But in the main the belief that industrial securities contain an exceptionally large amount of risk is well-founded. Consequently it follows that only experienced investors should buy industrials. With few exceptions, market values change rapidly. This feature harms the investment position. Moreover, continual fluctuations in value make these securities attractive to traders who endeavor to profit from daily movements. Sometimes industrial securities of undoubted investment merit become the vehicle for speculative operations and rapid price changes follow.

Inherent risks.—At the outset, the investor should appreciate the many disadvantages in this field from an investment viewpoint. Of course offsetting advantages exist. The opportunities for profits are unlimited. The vast accumulations of a Carnegie, Rockefeller, and Ford, and the enormous properties of the Steel Corporation, the Standard Oil Companies, and the General Electric Company are evidence as to potential earning power. Regulatory legislation as exercised by the commissions over the railroads and utilities is almost unknown in industrial circles. The world is their field and every market is open to them. With a good product, a fair price, adequate capital, and able management, no enterprise offers greater profit possibilities than do the American industries.

But in this very freedom of actions lies considerable danger. The railroads and the utilities are protected legally against harmful competition. But competition exists everywhere in the industrial field. While it is true that in the long run keen competition gives better products and fairer prices to consumers, it is also true that in the short run many enterprises representing large capital investments are forced into financial disaster. Large earnings in any class of industry always invite competitors. If there still remained enough business to go around, all would be well. But the invariable tendency seems to be to provide facilities considerably in excess of the normal aggregate requirement. Then follows an uneconomic struggle to keep the facilities in full operation. Over-development of any industry sooner or later brings large losses. The soft-coal industry is one example, and there are those who believe the motor industry will prove another.

Unlike the revenues of a railroad or a utility company, the revenues of an industrial enterprise vary widely as business conditions change. As a substantial part of the operat-

ing expenses are constant, it is evident that a falling off in sales will be accompanied by an even greater proportionate decline in earnings. For example, in 1914 the gross revenues of the Steel Corporation were 24 per cent less than in 1913; but in 1914 the operating ratio was 88 per cent compared with 81 per cent in 1913. Not only did the company make smaller sales but it also made less on each dollar taken in. This lack of stability in earning power makes industrial securities as a class relatively poor investments. The extent to which the position of the securities is affected by fluctuating sales is here indicated:

Annual Sales	Operating Ratio	Operating Expense	Net Profit	Interest Charge	Times Earned	Balance for Stockholders
\$120,000	75%	\$90,000	\$30,000	\$10,000	3.0	\$20,000
100,000	80	80,000	20,000	10,000	2.0	10,000
80,000	85	68,000	12,000	10,000	1.2	2,000
60,000	90	54,000	6,000	10,000	0.6	0

One should not fancy that reduction in annual sales such as are indicated in the accompanying table are excessive. Reference has previously been made to the decline of 24 per cent in United States Steel Corporation sales in a single year. The sales of the Walworth Manufacturing Company in 1921 were 48 per cent less than in 1920, which was not far from the average industrial experience for that year. In 1920 United States Rubber had sales of \$256,000,000 and profits of \$21,000,000; in 1921 sales were \$164,000,000 and profits were negative. During the same period, Goodyear Tire and Rubber suffered such enormous losses that complete recapitalization was necessary under which old stockholders were completely wiped out. On May 2, 1924 the common stocks of the seven leading tire and rubber companies could have been bought for a total of \$91; not long previously, the aggregate value was over \$600.

The extent to which corporate net earnings fluctuate

with changing business conditions is illustrated in the following compilation, prepared by the Federal Reserve Bank of New York.

(Net Profits in Millions of Dollars)

Group	No. of Corpo- rations	1919	1920	1921	1922	1923
Steel and railroad equipment	11	111	149	40	50	150
Motor and accessories.....	15	116	78	42	90	120
Oils	8	14	19	11	15	11
Food and food products....	16	71	86	5	63	86
Clothing (inc. leather & tex- tiles)	10	32	22	16	25	31
Tobacco	6	29	33	39	47	46
Miscellaneous industrials....		73	70	30	61	86
Stores	31	59	12	10	49	64
Total 8 groups.....	109	505	469	79	400	594
Telephone	70	77	82	107	126	136
Other public utilities.....	24	62	71	66	90	104
Total public utilities.....	94	139	153	173	216	240

Leading factors in analysis.—Three leading factors must be carefully analyzed in the analysis of an industry security. The first is the nature of the enterprise. The second is the efficiency of management. The third is the established earning power. Each of these factors will now receive separate consideration.

Nature of the business.—In the great variety of lines included in the industrial classification, a wide diversification of operating conditions is found. Some firms manufacture a product which is a necessity of life, whereas other firms produce less essential goods. Some have a monopoly on the market, while in other lines a host of firms compete for sales. Some have been greatly helped by tariff legislation and others have prospered without this aid. Some have highly integrated plants while others are more dependent upon allied industries. Some firms depend largely upon foreign markets, whereas others find domestic trade more attractive. Some handle perishable and seasonal goods while others deal in standard commodities.

Some have the largest share of their capital tied up in fixed assets and others place their funds chiefly in current assets, especially inventories. In some the processes of industry have been fully worked out, and in others the methods of production are still in the development stage. Advantages and disadvantages exist in these varying conditions as will be shown.

Companies whose product is an essential of life enjoy an inherent superiority over those which deal in semi-necessities and luxuries. In this respect, the food companies, such as the packers, should have a high position owing to the constant demand from consumers; a compensating disadvantage in this field is the necessity of carrying large inventories. The demand for steel products is more stable than that for automobiles; hence the superiority of the "steels" over the "motors". Earnings of all industries fluctuate with changing conditions, but those whose markets are relatively more constant generally are preferable to the others.

Monopoly position in an industry should be carefully studied. How has the position been established? If the monopoly is due to artificial causes such as patent rights, it is not so good since eventually the patents will expire, as in the case of the Celluloid Company; or new inventions may supersede, as in radio development; or patent rights may be held void, as in the case of the Selden Automobile basic patents. Moreover constant expense and inconvenience is caused by infringements. If the monopoly is due to natural causes, such as the possession of the chief sources of raw material, as in the case of the sulphur companies in the Southwest, the situation is better, but there is continual danger from the discovery of new sources. But if the monopoly is due to efficiency in management, as in the case of the Ford Motor Company, the situation is best of all since it is most likely to remain permanent.

Companies whose earnings are due in large measure to protection by tariff duties from foreign competition are not in an enviable position. The tariff has long been the football of American politics. Each change of administration brings a revision of customs duties. The peculiar international trade situation which has followed the Armistice is already making for lower tariff. European goods are coming into this country despite high tariff walls. And the future promises even more strenuous competition in this regard.

Integration in industry, unless expanded beyond reasonable capacity to manage, is usually beneficial to investors. If the integration is vertical (as in the case of the Steel Corporation which owns the mines where the ore is found, the railroad over which it is moved to a lake port, the docks where it is loaded into boats, the ships which carry it to the plant, and the plant itself) or if the integration is horizontal (as in the case of the ownership of the Chile copper mines by Anaconda) the ordinary result is to enhance the earning power of the enterprise. A completely integrated industry, such as the Standard Oil companies, is independent of the usual difficulties of quality, prices, shipments, and the like, which constantly arise between allied industries.

Companies which place large dependence upon foreign markets undergo unusual risks. International difficulties, such as wars, political differences, and imperialistic policies, are not only disturbing in themselves but entail other disadvantages such as depreciated exchanges. Many American companies suffered enormous losses on European investments and in foreign trade as a result of the World War. The Singer Manufacturing Company alone lost over one hundred million dollars in Europe between 1914 and 1921.

Perishable and seasonal goods make a special problem

for industries. Particularly is this so in foodstuffs and clothing. If the goods cannot be sold at a profitable price, sales must be made irrespective of cost, as the product cannot be held to await a more acceptable price. The large fruit companies, the department and chain stores, the clothing manufacturers, and to a less extent, the meat packers, find this a perplexing problem.

In many industries, notably the trading companies including department and chain stores, the meat packers, and the oil producers, the larger share of invested capital is in inventory accounts. Theoretically, this is a satisfactory position as the capital is far more liquid than when tied up in fixed assets such as buildings. But changing price levels make large inventories risky undertakings. The great industrial losses in 1920 and 1921 were due more to shrinkage in inventory values than to true operating losses.

In those industries where the manufacturing processes have been fully worked out, such as in steel and textiles, the earning power is likely to be more secure than in other industries where processes are being developed, such as in radio for illustration. The working out of efficient methods of operation is usually of slow growth. Consequently the earning power of new industries is seldom up to expectations.

In addition to those mentioned, numerous other considerations are involved in an analyzation of the nature of the business. The various forms of financial institutions such as banks, trust companies, and insurance companies, have a stability of income which ordinarily makes the only form of security which they issue—common stock—a high-grade investment. On the other hand, the extractive industries, such as mining and oil producing, have such large fluctuations in earnings that their securities, even in the form of mortgage bonds, are too risky for the average in-

vestor. Then again is the possibility of the extension of Government ownership to certain industries, especially those supplying fuel and foodstuffs.

Efficiency of management.—The first requisite of a good industrial company is efficient management. In view of the relative freedom from public supervision and the constant interplay of competition, management plays a much greater part in the success or failure of industrial enterprises than of railroads or public utilities. "Management includes personal character, ability to organize, ability to produce, market and finance to advantage. It includes knowledge of methods and knowledge of men and markets, and skill in using this knowledge. It may include ability to take chances wisely, or to pursue a cautious course and still make profits. It must include foresight and ability to develop successors to carry on the business in years to come. This is a very brief summary of points to be considered in connection with management, but in industrial financing more than in any other, *it is the men rather than the property that form the chief security for the bankers' advances.*"*

How may the efficiency of management be judged? By the quality of the product or the service, by the relative freedom from labor troubles, by the activity of the company during dull times, by the condition of the corporate assets, by the expansion policy of the company, by the installation of modern operating methods such as the substitution of machines for men when the task can be equally well performed, by continual reductions in costs and therefore in prices, by the elimination of unprofitable lines, and by established earning power. In a way, earning power is the test of efficient management, but it should not be the only

* Mr. J. W. Hornor, Jr., in *I. B. A. of A. Bulletin*, Vol. XI, No. 5, p. 112, May 31, 1923.

criterion. Satisfactory earnings is not conclusive proof that larger income is impossible. Waste in American industry is the greatest overhead charge. The true test of efficient management is in the elimination of waste in its multitude of forms.

Earning power.—In the final analysis, established earning power is the best test of investment merit in an industrial company. Herein the nature of the product and the efficiency of management find economic expression. The patent objective is the creation of satisfactory profits. Not only should the undertaking show earnings but also the amount of the earnings should be in keeping with the amount of the invested capital and the degree of risk incurred. Average annual profits of \$100,000 would be quite acceptable upon an investment of \$1,000,000 but would be inadequate if the capital were \$2,000,000. A return of 10 per cent yearly would be satisfactory in a stable industry such as textile manufacturing but would be too low to compensate for the additional risk involved in a fluctuating industry such as oil producing.

Earning power may be determined from analysis of the financial statements of the respective companies. To the extent that these statements furnish details of the corporate operations, a more or less satisfactory analysis is possible. In some cases the statements are all that might be asked; in others they leave much to be desired; and in a few, no statements are available. In the last instance, intelligent analysis is impossible. Some general conclusions can be drawn from observation of plant and methods, from the position of the firm in the trade, from the reported dividend payments, from the credit standing of the firm, and the reputation of the management, but the ultimate test—the actual earning power—cannot be applied. The securities of such firms—happily barred from the various ex-

changes—are by no means always poor investments. Investors, however, are obliged to purchase on a basis of good faith and confidence in the enterprise and its management. Not bad criteria, to be sure, but then such information is available in every security purchase and in the others, definite information as well on earnings and net worth serves as a check upon confidence. Appearances are sometimes deceptive.

The financial statements include the balance sheet and the income statement. Under the usual practice corporations issue their statements annually. The publication date may be from a few days to a few months after the close of the fiscal year. An increasingly large number of companies now report earnings more often. A compilation in 1923 showed that ninety-eight industrial companies whose securities were listed on the New York Stock Exchange issued quarterly reports; forty-four issued semi-annual reports; and one issued monthly reports.

Capitalization.—The capitalization of an industrial company definitely affects the investment position of its securities. It is a commonplace to repeat that the major share of the capital should be in the form of certificates of ownership, that is, stock, rather than in evidences of indebtedness, that is, bonds. Inherently, earning power is unstable and therefore to a maximum degree the payment of income on the securities should be a contingent and not a fixed charge. Many companies carry this policy to an extreme and issue no bonds whatever, including among others exceptionally prosperous firms such as American Locomotive, General Motors, National Biscuit, National Lead, and International Harvester.

Financing on this plan is ideal from the corporate viewpoint but is not without disadvantage to stockholders. If a limited part of the capital is secured from borrowing

through bond issues, the cost will usually be substantially less than the profit derived from its use. The margin accrues for the benefit of the stockholders. A company with a capitalization of \$10,000,000, all in stock, earns \$1,000,000 annually or at the rate of \$10 per share. If the capitalization were \$8,000,000 in stock and \$2,000,000 in 5 per cent bonds, the same earnings would mean \$11.25 per share. If the capitalization were \$5,000,000 in stock and \$5,000,000 in 5 per cent bonds, the earnings would be \$15 per share. This plan is known as "trading on the equity". The enhanced earnings on the stock encourage many companies to exceed a conservative limit on bond issues under this plan.

The maximum extent to which industrial companies may issue bonds as part of capitalization is rather a debatable question depending in each case upon the relative stability of earnings. An accompanying compilation shows the relative capitalization plan of the leading American industries as in 1922. It is interesting to note that out of the total capitalization of \$6,692,758,000, bonds comprised 24.9 per cent and stock 75.1 per cent. It is further interesting that one company had issued 62.5 per cent in bonds and that this same company was in financial difficulty a short time thereafter as a result of excessive fixed charges.

CAPITALIZATION OF INDUSTRIAL COMPANIES IN 1922

	Bonds	Pref. Stock	Com. Stock
	%	%	%
1. Allis Chalmers.....	—	38.6	61.4
2. American Car & Fndy	—	50.0	50.0
3. American Hide & Leather.....	—	53.1	46.9
4. American International.....	—	2.0	98.0
5. American Locomotive.....	—	50.0	50.0
6. American Woolen.....	—	50.0	50.0
7. Crucible Steel.....	—	33.3	66.7
8. International Harvester.....	—	39.0	61.0
9. National Biscuit.....	—	46.4	53.6

CAPITALIZATION OF INDUSTRIAL COMPANIES IN 1922
(Continued)

	Bonds	Pref. Stock	Com. Stock
	%	%	%
10. National Lead.....	—	54.0	46.0
11. Pullman	—	—	100.0
12. Standard Oil of New Jersey.....	—	66.7	33.3
13. Studebaker	—	14.3	85.7
14. Texas Company.....	—	—	100.0
15. Corn Products.....	3.6	31.7	64.7
16. General Motors.....	3.7	32.2	64.1
17. American Tobacco.....	7.6	34.3	58.1
18. American Can.....	10.5	43.7	44.8
19. Pan American Petroleum.....	11.6	—	88.4
20. Mexican Petroleum.....	12.7	20.1	67.2
21. Allied Chemical & Dye.....	14.7	66.3	19.0
22. General Asphalt.....	16.2	20.3	63.5
23. General Electric	17.1	—	82.9
24. Pittsburgh Coal.....	18.1	42.9	39.0
25. Republic Iron & Steel.....	19.7	36.2	44.1
26. Standard Oil of California.....	20.0	—	80.0
27. Baldwin Locomotive.....	21.2	39.4	39.4
28. United States Smelting & Refining..	22.2	45.3	32.5
29. American Smelting & Refining.....	23.9	34.3	41.8
30. Anaconda Copper.....	24.9	—	76.1
31. American Sugar Refining.....	25.0	37.5	37.5
32. Central Leather.....	27.0	33.0	40.0
33. International Paper.....	30.3	38.6	31.1
34. International Mercantile Marine...	31.1	35.2	33.7
35. Cuba Cane Sugar.....	31.3	63.0	5.7
36. American Cotton Oil.....	31.8	22.2	46.0
37. Westinghouse Electric.....	32.6	3.6	68.8
38. P. Lorillard.....	33.4	17.8	48.8
39. Virginia Carolina Chemical.....	34.0	28.7	37.3
40. Midvale Steel.....	34.2	—	65.8
41. Liggett & Myers.....	35.0	26.6	38.4
42. American Agricultural Chemical....	37.3	28.7	34.0
43. United States Rubber.....	37.3	24.8	34.9
44. United States Steel.....	39.0	25.4	35.6
45. Armour & Company.....	43.4	19.0	37.6
46. Kennecott Copper.....	50.0	—	50.0
47. Colorado Fuel & Iron.....	50.0	2.9	46.6
48. Goodrich Rubber.....	55.5	42.0	2.5
49. Bethlehem Steel.....	56.4	18.6	25.0
50. Wilson & Company.....	62.5	12.5	25.0

Total of all Companies 24.9 26.5 48.6

Balance sheet.—The balance sheet of an industrial company is a statement of its resources, liabilities, and net

worth. It is essentially a statement of opinion and should be so construed. While it may be a fact that the various assets are actually owned, the value at which they are appraised is simply an opinion, conservative though it may be. The true value of any asset is not its cost, nor replacement value, nor depreciated value, nor reproduction value, but its market value in normal times. The usual practice is to value assets at cost and then to set up depreciation reserves based upon the estimated lifetime. Such practice results in valuations which are far from the truth. The result may be either an understatement or overstatement of value. If the enterprise is profitable the value thus determined is probably too low, and if unprofitable the value is too high. Quite invariably, the book valuations of the assets of failing companies prove far greater than is realized upon sale. Little purpose is served therefore in comparing, as a test of safety, the ratio of bonds to assets. The assets of a going prosperous company have much greater value than the similar assets of a company in receivership.

Calculation of book value of the stock of an industrial company is interesting but, as has been shown, relatively of small analytical use. From the total assets are deducted intangible items, such as good-will and trade-marks, and the various liabilities. The remainder is divided by the number of outstanding shares and the result is the book value per share. An illustration is given which shows the book value of one share of United States Steel Common on December 31, 1923 was \$269. The market value at that time was less than \$100. The inference might be that the assets were greatly over-appraised; but the opposite was more likely true. The market value of the stock depends not upon book value but upon earning power and dividend payments.

**CALCULATION OF BOOK VALUE OF UNITED STATES STEEL COMMON
as of December 31, 1923.***

Net property account after depreciation (\$182,475,- 284 from earnings in 1923) and replacement....	\$1,639,158,642
Advance mining royalties and real estate investment	39,723,600
Sinking funds, reserve funds and deferred charges..	122,885,538
Inventories	\$270,757,954
Receivables	101,485,405
Agents' balances, etc.....	1,728,459
Marketable securities.....	64,086,482
Cash and loans.....	150,537,171
Total current assets.....	\$588,595,471
Total current liabilities, including Federal tax.....	137,403,026
Net working capital.....	\$ 451,192,445
Total property and working capital.....	\$2,252,960,225
Bonded debt and mortgages.....	527,159,729
Balance	\$1,725,800,496
Preferred stock outstanding.....	360,281,100
Balance	\$1,365,519,396
Equal per share of common stock to.....	\$269.
Our same calculation end of 1922.....	\$269.
Our same calculation end of 1921.....	\$260.
Our same calculation end of 1920.....	\$261.
Our same calculation end of 1919.....	\$245.
Our same calculation end of 1918.....	\$235.
Our same calculation end of 1917.....	\$201.
Our same calculation end of 1916.....	\$196.

Intangible assets such as goodwill, patents, trade-marks, and the like are often included in corporate balance sheets at arbitrary values. The Steel Corporation makes no attempt to value its goodwill whereas Cluett-Peabody values this asset at \$18,000,000. General Electric places its patents on the balance sheet at \$1 although they are enormously valuable. Coco-Cola has intangibles at \$25,000,000 and American Tobacco at \$54,000,000. In investment analysis, the actual value set upon intangibles should be

*Prepared by Clark, Childs & Company, New York.

ignored. Large or small, it will appear in its true value when earning power is studied.

Securities owned are usually valued at cost which often does not represent actual value. On December 31, 1921, American International reported Securities at \$29,216,286 which was approximately \$11,600,000 higher than market value on that date. On December 31, 1923 General Electric reported Investments at \$77,684,402 which was a most conservative appraisal.

Current assets comprise cash, receivables, and inventories. The general rule is that current assets of an industrial company should be at least twice current liabilities to reflect adequate liquidity. Large cash balances are very helpful in providing the means to take advantage of favorable purchasing opportunities, to offer more liberal credits, to avoid interest charges on bank loans, and to maintain helpful banking connections. Receivables should bear a reasonable ratio to sales, depending upon the nature of the industry and terms of sale. Inventories are usually valued at cost or market and the total should likewise bear a reasonable ratio to sales. Large inventories are dangerous in falling markets as has been previously discussed. On December 31, 1920, Columbia Graphophone had current assets of \$34,914,272 and current liabilities of \$16,378,195, a ratio exceeding two to one, and apparently satisfactory. But a large part of the assets was in inventories which could not be liquidated without large sacrifice, and receivership ensued.

Reserve accounts on the industrial balance sheet may be shown or may be hidden. If the full asset value appears, the amount of the reserve is also given. In many cases, the account is shown net, that is, after the deduction of the reserve. Such hidden reserves cannot be checked for rela-

tive adequacy and often make balance sheets misleading. If the reserve is too large, the net worth is understated; if too small, the converse is true. "Hidden" reserves may exist throughout the balance sheet. The under-statement of the value of any item on the asset side or the over-statement of any item on the liability side, except surplus, constitutes in effect the creation of a secret reserve. Secret reserves have a large advantage in provided "unexpected" bumpers of safety in times of emergency. But they have the disadvantage of leading investors to believe that the company is less prosperous than is actually the case.

The surplus account in the last analysis is simply the item which makes the statement balance. It endeavors to show the accumulated undistributed earnings of the company from which future dividends may be paid. The accuracy with which it serves this purpose depends upon the policy of the company in setting upon the other items. If the valuations are fairly recorded, the object is achieved. But as has been indicated, seldom if ever is this the case. Overvaluations and undervaluations are the rule and surplus too often reflects what the company desires to show rather than what the facts would justify.

The income statement.—Unlike the balance sheet, the income statement is more truly a statement of fact than opinion. Opinion does work in, however, in the determination of changes in inventory values and in the provision for reserve accounts. But considerably less opportunity exists for the "human factor" to distort, unintentional though it may be, the true situation.

The analysis should disclose changes in the gross revenues. Occasional years may bring decreases but the tendency should be upward. After allowance is made for changes in price levels, the rate of growth should be at

least four per cent yearly, merely to keep pace with the industrial development of the country. Newer enterprises should grow more rapidly.

Operating expenses should be considered relatively, with revenues, rather than absolutely, from year to year. Operating ratio should vary with different classes, but should not exceed 90 per cent as a general rule. Operating expenses should in all cases include depreciation charges and inventory adjustments.

Net income, that which remains after operating expenses have been paid, is the real test of the worth of the company. For this has the enterprise been started and continued. Herein is reflected all the good and bad factors that bring influence upon the corporate activities. Herein is found the only logical basis for the valuation of the corporate assets. In the crucible of net profit, the efficiency of management receives the acid test. Is the enterprise profitable? Only if it shows earnings. Is the enterprise successful? Only if the earnings are proportionate to the capital invested and to the degree of risk assumed. Are the securities of the company desirable investments? Only if the earnings show wide margins of safety over interest and dividend requirements.

Owing to the inherent instability of industrial earnings, the results for any single year are inconclusive. The average results over a period of years, five or more to include good and lean years, give a more accurate picture than can any one or two years. What should the average return be upon invested capital? A minimum of ten per cent, surely, to compensate for the additional risk incurred in entering an uncertain field where for every success are numerous failures. And in those fields such as oil producing where the chances of failure are so great—where the bottom of a

6,202-foot drilled hole was found to be as dry as the top—the minimum return might conservatively be put as high as 15 to 25 per cent.

The fixed charges payable out of net income include taxes and bond interest. The interest on any industrial bond should be regularly earned many times over, certainly at least twice, to warrant a favorable investment position. In dull years, industrial earnings are low, and unless ample margins of safety are provided, interest defaults may result.

The balance after fixed charges is available for dividend payments. In dull years, it often appears "in red," that is, a deficit, thereby compelling the discontinuance of dividends unless strong reserves have been built up out of previous years. A limited number of industrial preferred stocks, such as National Lead, National Biscuit, American Car and Foundry, and United States Steel, and even fewer industrial common stocks, such as General Electric, have gained an investment rating because of unbroken dividend records over a long period of years. But these are the exceptions and as a general rule industrial stocks as a class offer the poorest investment opportunity in the entire security field.

Simplified industrial balance sheets.—The ordinary balance sheet of an industrial company can be interpreted easily in its published form only by those who have had considerable experience. In most cases, a more satisfactory analysis is possible if the statement is recast by the investor into simpler form. The method employed is shown in the accompanying pages which show a balance sheet as officially published and as recast into simple form. A much clearer picture is afforded from the second method. It is to be hoped that an increasing number of companies will follow this practice.

CONDENSED BALANCE SHEET

GENERAL ELECTRIC COMPANY

DECEMBER 31, 1923

*ASSETS***Fixed investments:**

Manufacturing plant at cost, including land, buildings and machinery	\$169,487,078.12
Less: General plant reserve and depreciation	111,617,876.92
	\$ 57,869,201.20

Land, buildings, etc., other than manufacturing plant	1,755,870.72	
Furniture and appliances other than in factories	1.00	
Patents and franchises	1.00	\$59,625,073.92

Investment securities:

Stocks, bonds and other securities	77,684,401.97
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Current assets:**Inventories:**

—at factories	\$65,291,100.06	
—at warehouses, in transit, on consignment, etc.	18,454,930.99	\$83,746,031.05

Installation work in progress	19,736,179.40	
Notes and accounts receivable	37,987,339.04	
Advances to associated companies..	2,640,662.60	
U. S. Government securities	39,622,727.30	
Cash	51,582,892.76	235,315,832.15

Deferred charges to income	941,233.58	
		\$373,566,541.62

CONDENSED BALANCE SHEET (Cont.)

GENERAL ELECTRIC COMPANY

DECEMBER 31, 1923

LIABILITIES AND CAPITAL

Debenture bonds:

3½% due in 1942	\$ 2,047,000.00	
5% due in 1952	15,136,500.00	
Employees investment	4,927,730.00	\$22,111,230.00

U. S. Government loan, due 1928-1933	1,500,000.00
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Current liabilities:

Accounts payable	\$13,928,878.39	
Accrued taxes, estimated	10,935,611.82	
Accrued interest payable	374,514.63	
Collections under employees' investment plans	2,490,778.25	
Dividends payable January 15, 1924.	3,866,149.85	31,595,932.94

Advance payments on contracts	19,202,102.03
Charles A. Coffin Foundation	400,000.00
Reserve for pension payments	2,150,000.00

General reserve:

At January 1, 1923	\$11,979,275.00	
Added during year	2,467,800.00	
Premium on capital stock	1,607,220.00	16,054,295.00

Capital stock:

Special (\$10 par value) authorized \$35,000,000, issued	\$17,701,640.00	
Common (\$100 par value) authorized \$185,000,000, issued	180,089,246.00	197,790,886.00

Surplus:

At December 31, 1922	\$73,167,047.63	
Added during year	18,579,423.02	
	\$91,746,470.65	
Less: 5% dividend paid in special stock	8,984,375.00	82,762,095.65
		\$373,566,541.62

A SIMPLE STATEMENT OF THE FINANCIAL CONDITION OF THE GENERAL ELECTRIC COMPANY

DECEMBER 31, 1923

The company owns:

Plants, buildings, and similar fixed assets conservatively valued at	\$59,625,000.00
Cash on hand, United States bonds and Treasury certificates, salable merchandise, and moneys owed by customers and others	235,316,000.00
Other assets such as investments in associated companies, prepaid charges, etc.	78,626,000.00

The resources of the company are therefore.....\$373,567,000.00

The company owes:

To the Government for loan and taxes	\$12,436,000.00	
To employees, investment bonds	7,418,000.00	
To customers for advance payments.	19,202,000.00	
To creditors for accounts not yet due	13,929,000.00	
To bondholders, principal and interest	17,558,000.00	
To stockholders, January, 1924, dividends	3,866,000.00	74,410,000.00

The net worth of the company is therefore\$299,157,000.00

The investment of the stockholders is

Special stock	\$17,702,000.00	
Common stock	180,089,000.00	197,791,000.00

This leaves a surplus of\$101,366,000.00
from which there have been set aside the following reserves:

Employees pensions	\$2,150,000.00	
C. A. Coffin Foundation	400,000.00	
General reserve	16,054,000.00	18,604,000.00

Leaving net surplus of\$82,762,000.00

CHAPTER XI

FOREIGN SECURITIES

The export of capital.—During recent years an increasing tendency has developed among American investors to purchase securities issued abroad. Such commitments represent in effect the export of capital. Capital flows naturally to the place where it is most highly valued; in other words, where it will secure the most satisfactory rate of return. Purchasers of foreign securities, under normal conditions, must see an advantage in certain major aspects over domestic securities to warrant their choice.

Experience has shown similarity in the development of foreign investment policy on the part of the leading nations. During the early years in the history of a nation, undeveloped resources are plentiful but capital is lacking. Established nations with plenty of capital have relatively limited investment opportunities at home. Capital, in the form of merchandise, more often than in the form of gold, flows from the established nation to the new country and securities are accepted in payment.

Gradually the resources are developed with concurrent diminished need for new borrowings. Eventually the new nation is able to build up its own production to the point at which merchandise exports equal imports. However, not only must imports be paid for, but the annual interest on the securities which previously were given to offset unfavorable trade balances must also be paid. Debtor nations

must constantly maintain favorable trade balances to keep from going further into debt. Like bodies at rest, debtor nations tend to remain permanently in that condition. Only the most startling upheavals accomplish a balancing of international accounts. The World War was a striking illustration.

Foreign investments in the United States.—Prior to the World War, foreign capital flowed freely into the United States with the result that in 1914 foreign holdings of American securities amounted to over four billion dollars on which the annual income charge was about \$200,000,000. It is both interesting and significant to note that these securities were not acquired solely on what might be termed an investment basis. Rather were they accepted in lieu of unobtainable cash for merchandise shipments to this country. The merchandise comprised chiefly railroad equipment and machinery. Commercial expediency rather than investment merit was accountable for the growth of foreign investments, at least until the Civil War. Since 1865, however, continued expansion of foreign commitments was due largely to superior investment opportunities in this country rather than to trade causes. The United States continued a debtor nation until the World War. The close of the war found a complete reversal. Huge credits granted to European nations during the war and post-war periods entirely offset the pre-war indebtedness and made the United States a creditor nation to an amount in excess of ten billion dollars. This was accomplished not only by new credits but by the re-purchase of American securities which were owned abroad in 1914.

American investments abroad.—Securities issued abroad were held to a very limited extent by American investors previous to the World War. This was but natural.

Domestic needs were large and not only absorbed home capital but attracted funds from abroad. The situation would have been anomalous had American investors sought favorable opportunity abroad at a time when foreign capital was flowing freely to this country.

But foreign loans were not unknown. As early as 1899 American investors purchased Mexican bonds. Some \$200,000,000 in Japanese bonds were bought during the Japanese-Russian War in 1904 and 1905. Other loans were made to the nations of Germany, Cuba, San Domingo, Argentina, China, Liberia, and Austria, to the foreign state of San Paulo in Brazil, and to the cities of Frankfort and Tokio. It is interesting to note that in all these pre-war instances the securities were public issues, were in dollar denominations, and were usually parts of a larger issue offered simultaneously in other countries.

During and since the World War, the market has broadened considerably. Not only has the volume increased enormously, but private as well as public issues have been bought, as have internal currency bonds and external dollar issues. And all this has been in addition to some ten billion dollars advanced directly by the United States Government to the Allied Nations.

British foreign investments.—In direct contrast to the limited foreign investment experience of the United States prior to the World War was the wide experience of England. An accompanying compilation shows that in late 1913 British oversea investments amounted to no less than some \$18,570,000,000. About one-half was invested in the colonies of the Empire and the remainder distributed variously in all corners of the world. Almost \$4,000,000,000 was invested in the United States alone. Fortunately only 5 per cent of the total was invested in Europe.

British foreign trade benefited greatly from these investments. The enterprises in which the money was invested purchased from England to the maximum extent. Overseas shipments were carried in English ships and insured in English companies. The interest on the investments, amounting to nearly one billion dollars annually, brought a constant flow of merchandise as payment to the British Isles.

BRITISH OVERSEA INVESTMENTS

(As estimated by Sir George Paish, in December, 1913; £ = \$5)

NORTH AMERICA

United States	\$3,773,085,000
Canada	2,574,350,000
Mexico	495,095,000
Cuba	165,375,000

Total North America \$7,007,905,000 (38%)

SOUTH AMERICA

Argentina	\$1,597,825,000
Brazil	737,825,000
Chile	305,715,000
Uruguay	180,620,000
Peru	170,865,000
Miscellaneous	127,690,000

Total South America \$3,120,540,000 (17%)

EUROPE

Russia	\$333,135,000
Spain	95,285,000
Turkey	93,480,000
Italy	62,200,000
Portugal	40,680,000
France	40,100,000
Germany	31,820,000
Miscellaneous	272,900,000

Total Europe \$969,600,000 (5%)

ASIA

India	\$1,893,800,000
Japan	314,080,000
China	219,415,000
Straits Settlements	136,465,000
Hong Kong	15,520,000
Philippines	41,085,000
British North Borneo	24,100,000
Miscellaneous	348,485,000
Total Asia	\$2,992,950,000 (16%)

AFRICA

South Africa	\$1,850,960,000
Egypt	224,560,000
West Africa	186,525,000
Total Africa	\$2,262,045,000 (12%)

AUSTRALASIA

Australia	\$1,660,560,000
New Zealand	421,670,000
Other colonies	130,945,000
	\$2,213,175,000 (12%)

Grand Total\$18,566,215,000 (100%)

Nature of foreign investments.—A survey of the foreign securities listed on the American markets shows that almost without exception the investments are in government or municipal issues rather than in private concerns. This should not necessarily be so. Securities listed on the London Stock Exchange include private enterprises in all parts of the world. The fact that Americans are not trained to analyze scientifically foreign investments has caused the purchase of only the type of foreign security—the government and municipal bond—which has the greatest element of safety, and the strict avoidance of foreign corporate securities. Because Americans have acted thus conservatively is not cause for serious criticism, however. The

development of domestic enterprises has called for most of our available capital, and has welcomed the investments of foreigners. Surely America would have been unwise to expect profitable employment of its capital abroad when foreign capital found it advantageous to come here. Capital flows in the channels where it receives the largest return and English investors are entitled to no great laurels for sagacity in flinging their capital commitments far when domestic investments yielded poor returns. Not a great many years ago British $2\frac{3}{4}$ per cent bonds sold at 113. Under such conditions small wonder exists that English capital should venture abroad.

Geographical boundaries do not change the nature of investments. The word "foreign" may appeal to the imagination but connotes little actual difference. The same principles which determine the merit of domestic investments apply equally to foreign. Their application may require a consideration of circumstances which are taken for granted in America, such as political, monetary, and social differences. The ultimate determination, however, will depend upon the three great fundamentals: security, income, and marketability.

Leading differences in foreign investments.—The application of the basic principles of investment to foreign securities compared with domestic has three differences: political, monetary, and social. International politics play a strong part. "Recent history has shown that the steps are often short ones from private investments, say in railroad building, in weak countries by the nationals of strong countries, to spheres of influence for those strong countries with extra territorial privileges; from spheres of influence to political control as regards foreign relations; and from political control in foreign affairs to political control in domestic affairs; thus bringing the aggrandizing nation into

complete control of the weaker and once independent state.”¹ The fact that America had no “spheres of influence” through foreign investments has aided in no small degree in the preservation of friendly relations with foreign powers.

Monetary differences deserve special consideration. Domestic investments are generally payable in the local standard of value, which may be gold, silver, or whatever standard the nation may have. South American securities are often payable in bolivars, milreis, or pesos and therefore are not readily translated into American dollars. “The capitalist can translate it by an effort, but it is not a language in which he thinks. He can mathematically compute the equivalents in terms of his own money, but he does not feel them when prices are quoted.”² A larger objection is met in the changing relative value of the standards. The gold value of silver is subject to wide fluctuations. The effect of this fluctuation is important. If the American investor is an owner, that is, a stockholder, his income from foreign investments is paid in foreign money. This income will be increased when exchanged into American money if the gold value of the foreign money is above normal. On the other hand, the income will be decreased if the gold value is low. A speculative risk of considerable proportion is therefore connected with the purchase of foreign stocks in countries which have not a gold standard, entirely apart from their merits otherwise. If the investor is a creditor, that is, a bondholder in a foreign enterprise, he may, under his bond, be paid interest in American money. This necessitates that the corporation itself assume the risk of loss through exchange, but the bondholder is not altogether safe as a depreciation in the foreign standard will mean a lower

¹ “Theory of Foreign Investments,” E. W. Kemmerer.

² *Ibid.*

gold value in the plant which is security for the bonds and in the products of the company, from the profit on which the interest is paid.

Social differences include differences in language, unfamiliar systems of government, of jurisprudence, and of taxation—all of which will be referred to presently.

"It is only when the attractiveness of large immediate or future returns becomes great enough to surmount these barriers in addition to overcoming the natural conservatism of capitalists who prefer to see where their money is working, that capital moves out of the home land for permanent investment abroad."³

Classes of foreign securities.—Like domestic issues, foreign securities include both the public securities of national, state, and municipal governments, and the private securities of transportation, public service, and industrial companies. Differences arise, however, in the kinds of securities issued by the borrowers. External and internal, consols and rentes, tobacco monopoly and customs liens, sterling and franc, multiple currency and lottery, cedulas and cajas—all are terms with which the average American investor is quite unfamiliar.

External issues are those sold in countries outside of that of the issuing debtor; the stated currency is that of the country where the securities are sold and consequently the market value is not directly affected by fluctuations in the exchange rate on the debtor country. The Austrian 7's of 1943 represent an external issue, each bond being for \$1,000 and each semi-annual coupon for \$35. *Internal* issues are those sold in the country where the securities are issued; the stated currency is that of the home country and accordingly the market value of the bonds when owned outside of that country varies with fluctuations in exchange

³ "Theory of Foreign Investment," E. W. Kemmerer.

rates between the two countries. The French premium 5's of 1920-1980 illustrate an internal issue, each bond being for 1000 francs and each semi-annual coupon for 25 francs. With the franc at par (19.3c), the values of principal and interest are respectively \$193 and \$4.83 in the United States; with the franc at 10 cents, the values are \$100 and \$2.50; and with the franc at 5 cents, the values are \$50 and \$1.25.

Consols and *rentes* are terms applied to the perpetual debt of the countries of England and France respectively. "Consols" is an abbreviated form of consolidated whereas "rentes" is the French term for rent or interest.

Nations of inferior credit standing are unable to borrow on debenture bonds and are obliged to pledge specific resources. Sources of revenue, such as that from the *tobacco monopoly*, as in Portugal, or from *customs duties*, as in Salvador, are employed for this purpose.

Internal issues are stated in *sterling, francs, dollars, lira, pesetas*, and so forth, in accordance with the monetary unit in use in the country. When these securities are purchased abroad, they become foreign currency bonds in those countries. Hence, Holland *guilder* bonds are found in the American market. The value of such bonds depend upon two variables, the variations from par in the bond and in the exchange rate. The value of a 1000-guilder bond in the United States is about \$400 when the bond is at par and when the guilder is at par. But if the bond is quoted at 90 per cent of par and the guilder is quoted at 80 per cent of par, the value of the bond in the United States is but \$288.

Multiple currency bonds are external issues offered simultaneously in different countries. The part allotted to each country is issued in the currency of that country. The Japanese 4 per cent loan of 1905 was issued partly in dollars in the United States, in francs in France, in sterling

in England, and in marks in Germany. The usual practice is to permit the holder to have the option of asking for principal and interest payments in any of the currencies at a fixed ratio determined by the relative parities of the currencies. This permits the holder to take advantage of the most favorable rate.

Lottery bonds are bonds some of which are subject to redemption at stated times prior to maturity at large premiums over par value. Lottery bonds are popular in many countries but cannot legally be offered for sale in the United States.

Cedulas and *cajas* are Spanish words for "documents" and "cash," respectively, and are used in connection with security issues in Spanish-speaking countries.

Factors in analysis.—Many factors which are taken for granted in the analysis of a domestic security must be carefully studied in connection with foreign issues. The two primary tests are (1) ability to pay, and (2) willingness to pay. The determination of the relative capacity of the debtor in each of these respects involves an inquiry into various fields. Certain of the factors are not directly involved if the security has been issued by a foreign private corporation, but indirectly the factors are of importance. Securities issued privately in a nation seldom if ever rank better than do the public issues of the country. The factors are these: (1) the purpose of the loan; (2) the financial history of the country; (3) the political history; and (4) the commercial history. Ability and willingness can best be judged from a careful consideration of these factors.

Purpose of the loan.—It is essential in every investment that the money invested be used productively. It is especially so in the case of foreign investments. One of the major tests is willingness to pay and such willingness

is likely to be decidedly influenced by the relative profitability of the transaction to the borrower.

Loans made for the purpose of funding or refunding outstanding public indebtedness can scarcely be called productive. Bonds issued by governments for the purpose of meeting deficits in budgets should be left severely alone. And particularly, loans made for the purpose of maintaining excessive armaments should be avoided.

But if the purpose of the loan is to develop productive facilities, either public or private, such as machinery or railroad equipment and thus to finance a favorable trade balance with a debtor nation, the offering is much more satisfactory from the investor's viewpoint. An excellent illustration of a loan made for productive purposes was the sale of Belgian 6's in 1921, the proceeds of which went directly to the Baldwin Locomotive Company in payment for locomotives exported. Another good example was the issue of Japanese 6½'s in 1924 following the earthquake to finance the restoration of the devastated territory.

The importance of this factor has been well stated by Mr. Hartley Withers in his interesting book "The Business of Finance."

"There will for some time to come be great opportunities for the placing of capital abroad under circumstances which fully justify it. There will be railroads to be built, country to be opened up, ports and harbours to be constructed and deepened, all kinds of enterprise waiting to be done, the carrying out of which, if carried out cheaply and well, should add directly or indirectly to the power of the borrowing country to produce and transport more goods for the service of man. As loans are brought out for these purposes, it should be the business of those who handle them to see that these advantages are clearly set forth, so that the public may be taught to distinguish between issues made for these purposes and others which are not adorned by these qualities."

Financial history.—The financial history should be studied in order that knowledge be gained of (1) past record in meeting obligations, (2) present financial condition, and (3) internal banking and monetary situation. All nations of the world have not good records with respect to past obligations. Mexico and Central and South America have records of numerous defaults. It is but natural that investors prefer the securities of those nations which have honored their obligations in full.

The present financial condition should be scrutinized to determine whether budgets are being balanced out of revenues, and whether taxation policy is not unduly restrictive or lenient. The internal banking and monetary system should be sound to assure financial stability to the country. Post-war experience in this respect, especially in Europe, has been far from satisfactory.

Political history.—Political history should be considered from two viewpoints, stability of government and public dishonesty. The governments of many countries are notoriously unstable. Securities of such countries might well be left alone, but if conditions warrant consideration, inquiry should be made whether or not the incoming administrations have recognized the obligations of previous régimes; and if the present administration seems destined to remain any great length of time. Political corruption and graft have entered the financial circles of many nations. In the past, the sale of securities of more than one country has often been attended with flagrant examples of the payment of graft to public officials. Few obligations of greater weight are imposed upon those houses which offer foreign securities, than that of freeing the investor of any cause for suspicion in this respect.

Commercial history.—The financial capacity of a nation can be well judged from the state of its domestic and

foreign trade. Active markets and productivity at home, with a fair balance between exports and imports give excellent testimony as to the ability of any nation to meet its obligations. Defaults have rarely occurred in cases of nations enjoying a high degree of commercial activity.

Advantages of foreign investments.—Certain advantages may be gained directly and indirectly by the investor who carefully surveys the field of foreign securities for the commitment of a share of his capital.

In the first place, *the rate of return is usually greater than that on domestic securities of the same intrinsic risk.* Of course, other things being equal, a security of foreign issue naturally contains a greater element of risk than one of domestic issue. Moreover, the investor demands a higher yield as compensation for sending his capital so far from home.

In the second place, *better diversification of risk is obtained* through commitment of a limited part of the funds into the foreign field. This is discussed more thoroughly in a later chapter.

In the third place, *the export trade of the nation is assisted.* Foreign purchasers of American products, unable to pay cash at once, offer securities in payment. American manufacturers and exporters in general are willing to accept these securities if they can be sold to domestic investors.

In the fourth place, *existing credits to foreign nations may be imperiled* unless additional loans can be financed. Bankers often find it necessary to make further advances to protect previous loans made to borrowers who get into difficulty.

The extent to which these advantages may obtain at any given time varies widely. Since the close of the World War, both the financing of American exports to Europe and the protection of the large American credits therein,

have been perplexing problems. The American investor has helped materially by buying European securities amounting to hundreds of millions of dollars annually. His reluctance to buy such offerings to a greater degree is due chiefly to the failure of the European nations to restore economic and political stability on the Continent.

Disadvantages of foreign securities.—Seven distinct disadvantages exist in the field of foreign investments in the United States: (1) lack of information, (2) limited marketability, (3) competition of domestic securities, (4) tax position, (5) foreign jurisdiction, (6) lack of a protective governmental policy, and (7) the possibility of war.

Adequate information on foreign securities is relatively difficult to obtain. Distance alone delays and hinders communication. Accounting methods are not comparable. Even information of a most essential nature is sometimes unobtainable. In 1923 an offering of £4,000,000 in Ecuador bonds was made in London, at which time on three outstanding prior issues the statement was made: "It is understood that the government is in default on these obligations, but details are not available." Under ordinary conditions, information is relatively easy to obtain when the bonds are originally issued but increasingly difficult to procure thereafter.

As a class, foreign securities do not enjoy an active market in the United States. In some cases, the issues are listed on the various exchanges and are actively traded in. This advantage applies chiefly to the issues of the governments of the leading nations, such as England, France, and Italy. But many other issues are unlisted in this country, especially the internal bonds. This lack of marketability makes the issues less desirable to the average investor.

In order to attract capital in this country foreign securities must compete with large demands from domestic enter-

prise. To offset the natural inclination to invest at home, compensation must be paid in the form of higher interest rates. When this condition requires a foreign borrower, either public or private, to offer bonds with coupon rates of 7 and 8 per cent, there is ground for suspicion that the funds cannot be economically employed at such a high cost. True enough, the investor is getting a high return but he is also assuming a high degree of risk of default.

All foreign securities are subject to domestic taxation when owned by American citizens. Moreover, unless a reciprocal agreement has been made between the United States and the country in which the security was issued, the investor may find his income subject to two national taxes. This difficulty arises in connection with internal rather than external dollar issues, however. Not only must the foreign securities compete with the domestic issues as a class, but as fully taxable securities, they must compete against the tax-exempt offerings. Wealthy investors find limited attraction in this field.

In the event of default, American investors must take their case to courts under foreign jurisdiction for the protection of their interests. Not always will the decisions of the foreign courts be as favorable to investors as are usually those of American courts. When the State of Santa Catharina, Brazil, defaulted in 1921 in the payment of interest on its 6 per cent bonds, simply because of unwillingness to pay a just obligation, American bondholders were obliged to carry their claim to the courts in Brazil and eventually to accept new 8 per cent bonds to the extent of but 65 per cent of the principal amount of the old 6 per cent bonds.

The attitude taken by the United States Government with respect to the protection of American capital invested abroad is less satisfactory from the standpoint of the investor than is the established policy of European countries. In his ex-

cellent monograph on "Foreign Securities and the American Investor," Mr. M. L. Schiff brings this out clearly:

"It has been a great safeguard to the European investor that he knew that if a foreign country failed to live up to its engagements his government not only was ready, but would back him up diplomatically and even otherwise in enforcing his just demands. The courts are not open to international financing, as in the case of corporate enterprises, and warships must unfortunately take the place of receiverships and foreclosures. Until we can feel certain that our Government will maintain the rights of American citizens, who have made legitimate investments in foreign countries, it is hopeless to try to create here a real market for foreign securities. Experiences, such as American investors have had in Mexico, where apparently nothing has been done to safeguard their rights, not even to the extent of seeing that custom duties specifically pledged to bondholders have been made available to them, does more to militate against foreign investments by our public than all talk of foreign trade and America as the eventual, financial center of the world does to encourage them."

Under comparatively recent practice, the Department of State has been placing a somewhat unofficial approval upon new foreign security offerings. Such action is taken more from the political than from the economic viewpoint. The Department "suggests" that from a political aspect, one offering might be inadvisable, and, on the same basis, "approves" another offering. Of course, such approval is in no sense a measure of investment merit nor a guaranty that the United States Government will enforce collection. In the case of customs lien bonds of certain countries, the State Department has supervised the collections for the benefit of the bondholders and in this manner has greatly strengthened the position of the bonds.

The attitude of the United States Government in this matter of protection of American capital abroad was stated by the Secretary of State on August 30, 1923:

"It must be remembered that the Government of the United States has no power to compel its citizens to lend money or to fix the terms of their investment. Nor is it in a position to control

the action of other governments who desire to borrow. In this situation our Government endeavors, by friendly advice, to throw its influence against unfairness and imposition, and it has at times, with the consent of the parties—indeed, at their instance—agreed to a measure of supervision in the maintenance of security for loans which otherwise would have been denied or would have been made only at oppressive rates.”

Possibility of international complications and hostilities is an ever-present source of danger. The close of the World War found the bonds of Russia, Germany, and Austria-Hungary at a small fraction of their prewar value. In 1924 differences on immigration policies between the Governments of United States and Japan caused Japanese bonds in the American market to sell lower than regular market conditions warranted.

CHAPTER XII

REAL ESTATE MORTGAGES

Mortgages as investments.—A mortgage is a conditional transfer of title to property given as security for the payment of a loan. A loan thus secured is naturally safer than one not so protected. Corporate mortgage bonds are rated much better as a class than unsecured debenture issues. All corporate mortgages are essentially real estate mortgages just as railroad securities theoretically are industrial issues. Railroading is often termed the biggest industry in the country. But for convenience in investment classification, railroads are considered apart from the other industries, and real estate mortgages are treated as a class different from corporate mortgages.

Because of its tangible and definitely ascertainable value, real property has long been regarded as a highly satisfactory form of security for the payment of a loan. To assure payment at maturity and to give a margin of safety for depreciation in value during the period of the loan, the usual practice is to have the value of the mortgaged property substantially in excess of the amount of the loan. A widely accepted satisfactory margin of safety is secured by loaning up to two-thirds of the value of the property. This plan gives a margin of safety of one-half of the amount of the loan. Upon this basis and under the assumption that the property is fairly valued, real estate mortgages provide an attractive field for the investment of funds. The great bulk of the funds of insurance companies, savings banks, and

many other institutions is invested in real estate mortgages.

Real estate mortgages and mortgage bonds.—The distinction between mortgages and mortgage bonds in the investment field lies in the fact that mortgage bonds represent divided units of one mortgage. In some cases, a single mortgage may be larger than can be handled by one investor, and in such instances the custom is to have the loan divided into smaller component parts. This plan was followed in the \$12,000,000 mortgage placed on the General Motors office building in Detroit. From the investor's viewpoint, the method has its advantage in the added marketability the mortgage bonds enjoy and its disadvantage in relative difficulty in checking margins of safety in such large issues.

Form of mortgage.—A reading of the ordinary form of real estate mortgage will give a very good idea of the rights and obligations of the mortgagor, the party pledging the property, and of the mortgagee, the party loaning the money. The most important clauses inserted in the average mortgage are shown in the summary following:*

(Name of Mortgagor)	KNOW ALL MEN BY THESE PRESENTS, that I, (John Jones), for and in consideration of the sum of (\$10,000) to me in hand before the delivery hereof well and truly paid by (James Brown) the receipt whereof I do hereby acknowledge, (I have granted, bargained and sold, and by these presents do give, grant, bargain, sell, alien, enfeof, convey, and confirm unto) the said James Brown, his heirs and assigns forever, (Here insert description of Property) (To have and to hold the said granted premises, with all the
(Amount of consideration)	
(Name of Mortgagee)	
(Words of grant commonly called "Granting Clause")	

* Taken from "Individual and Corporation Mortgages," William Lilly.

(Habendum Clause)

(Name of Mortgagor's wife)
(Wife joins in mortgage deed, relinquishing common law right of dower)

(Defeasance clause making deed operate as a mortgage)

(Amount of consideration)

(Testimonium clause)

(Date)

(Signature of Mortgagor)
(Signature of Mortgagor's wife)

(Attestation clause)

(Signature of attesting witness or witnesses)

privileges and appurtenances to the same belonging to him, the said James Brown, and his heirs and assigns, to his and their own proper use and benefit forever). (Covenants of Mortgagor may be inserted here).

And I, (Mary Jones) wife of the said John Jones, in consideration aforesaid, (do hereby relinquish my right of dower in the before mentioned premises).

(Nevertheless, it is to be considered and the condition of the foregoing deed is such, that if the said John Jones, his heirs, executors and administrators, shall well and truly pay unto the said James Brown, his heirs and assigns, (\$10,000) then the foregoing deed is to be void, and of no effect;) otherwise to remain in full force and virtue.

(In witness whereof, we have hereunto set our hands and seals this (15th day of June in the year of our Lord, 1917).

(John Jones) (Seal)

(Mary Jones) Seal)

(Signed, sealed and delivered in the presence of:)

(HENRY BULLOCK)

The consideration must be stated and although it may not necessarily be an amount of money, it is usually so expressed. In general practice, the mortgage is accompanied by a bond or note to evidence the loan. The mortgagor will normally pay interest to the mortgagee at a rate specified in the bond in semi-annual payments during the term of the mortgage. The clause whereby the mortgagor actually conveys title to the mortgagee is known as the granting clause. The phraseology of this clause is usually peculiar, on account of statutory requirements. A description of the property mortgaged is contained in the agreement and need not be

more detailed than is necessary for clear identification. The defeasance clause makes the agreement operate as a mortgage upon the event of the mortgagor making all payments as agreed. Failure to make these payments really converts the mortgage into a deed; hence the clause which "defeats" this occurrence.

Most mortgages contain covenants which state specifically various rights and obligations on the part of both parties. A mortgage need not have any covenants by reason of its potential status as a deed. But because it rarely becomes a permanent transfer of title, the usual custom is to insert covenants to bring about a better mutual understanding. The following covenants are commonly found in mortgages:

1. Prompt payment of principal and interest by mortgagor.

2. Default in interest payments renders principal immediately due and payable.

3. Mortgagor will pay all taxes and assessments.

4. Mortgagor will keep property insured for the benefit of mortgagee.

5. Mortgagor will keep property in good condition.

6. Mortgagee has right of sale of property in event of default.

7. Mortgagee has right of entry in event of default.

8. Mortgagor warrants title to be good.

Registration of mortgage.—Under modern practice, mortgages are recorded in the office of the clerk of the county in which the property is located. The records of all mortgages are open to the public during business hours. A two-fold purpose is thus served: (1) constructive notice is given to the public that there is a lien upon the property, and (2) the lien of the mortgagee is protected. Failure to record a mortgage does not make it invalid, but such lien may not be held against any third person who may there-

after have a claim upon the property under the assumption that there is no such existing lien.

Security of the mortgage.—Security of a mortgage loan depends upon two factors, the priority of the lien and the margin or equity. Upon receiving a mortgage, the lender, or mortgagee has a lien upon the property. As the owner of such a lien, the mortgagee may take possession only upon default in the payment of his loan. This lien may not be the only lien upon the property. It is secondary to all liens which previously were upon the property, and precedes all liens thereafter with the exception of liens for taxes which always come first.

The second factor in considering the safety of principal is the margin of safety, or the difference between the amount of the loan and the real value of the property. Fluctuating real estate values would prohibit a loan to the extent of 100 per cent of the value of the property. As a rule it may be stated that the borrower desires all he can secure and the lender prefers a very large margin. The compromise figure is largely dependent upon the interest rate the loaner is willing to pay, as the lender will accept a narrower margin if the rate of interest is increased in compensation. The market is wide, however, and competition between many borrowers and many lenders causes a certain limit of safety to be established. The rate of interest will vary both in accordance with money rates and in accordance with relative proximity to the limit of safety. Universal acceptance of a standard limit of safety has not yet become a fact. A study of the various statutes and practices both in this country and abroad shows the limit to range from 25 per cent to 75 per cent although with few exceptions the range is from 33 1-3 per cent to 66 2-3 per cent. The savings banks laws in Massachusetts and New York prohibit savings banks within those States from investing in mortgages exceeding 60 per

cent of the real value of the property. In the large cities, the limit of safety is usually 66 2-3 per cent and in the smaller cities, 25 per cent to 40 per cent. Farm mortgages on improved farms rarely exceed 50 per cent. The margin of safety on the average real estate mortgage may seem unnecessarily high, especially in view of the much closer margins on other investments. The reasons for this large margin are about to be discussed.

Mortgage risks.—Six elements of risk must be considered in connection with mortgage investments. They may be listed as (1) inaccurate appraisal, (2) the influence of the business cycle, (3) neighborhood changes, (4) deterioration of buildings, (5) losses in foreclosure, and (6) danger of forced sales. Each of these is a possible danger to the lender, as will be seen.

Inaccurate appraisal.—The accurate appraisal of any piece of real estate is not a simple matter. The term "market value" does not have the same significance as it does in the case of commodities or even securities, since the same property is sold at rare intervals. The sales price of property in the vicinity is not always made public and even when it is known it does not make an exact criterion. Fictitious considerations are often reported on such transactions, either to secure a reduced tax assessment or to inflate the value. Expert appraisers are few in number, and at best their statements are only opinions which may be far from the facts. This is no reflection upon their ability, as the task is not easy.

A popular method of valuing property is to capitalize the rentals, regardless of the cost of construction. The objection to this method lies in too general an application. Different classes of property require different bases. Business property leased to responsible firms for long terms requires little attention and may be capitalized at 5 per cent, where-

as tenement property rented to irresponsible occupants brings considerable bother, expense, and loss through vacancies, and must be capitalized at a higher rate. The best method of appraisal is to add to the land value the cost of construction, less depreciation for age, and check against the net rentals capitalized at a fair rate for that class of property.

Influence of the business cycle.—Changes in economic conditions profoundly affect the value of real estate mortgages. Building construction costs during a period of prosperity are abnormally high. Prices of materials and the wages of labor greatly increase. The quality of both material and workmanship deteriorates. Not only does the cost of the building represent an inflated value but the life of the building is likely to be much less than the average. When business conditions become unfavorable, deflation comes to real estate as well as to other fields and property values decline. Another contributing factor to the decline is the rent reductions which are necessitated by the reduced income of the people in periods of depression. Upon the assumption that a mortgage up to 66 per cent of the value of the property is safe in a period of normal activity, a fairer criterion in a period of boom would be 50 per cent of the inflated value.

The earning power of property, which is the best criterion of its value, changes greatly with variations in the business cycles. Over a period of say 10 years, office buildings rarely yield over 6 per cent upon cost, yet in years of prosperity the rate of return may run as high as 7 or 8 per cent. Investors should allow for the decrease in earnings, due to lower rents and vacant space, which comes when business activity declines.

Neighborhood changes.—A third risk assumed in real estate mortgages is the possibility of decline in value through

changes in the location of the retail, wholesale, and residential sections of the city. The retail section generally moves in the direction of the best residential district, and is also influenced by transportation facilities. The transfer of the great retail district in New York City from Sixth Avenue and Twenty-third Street to Fifth Avenue and Thirty-fourth Street is an excellent illustration. The wholesale district desires proximity to both transportation facilities and the retail stores. Changes in the location of both affect the wholesale section. Residential districts change because of social reasons and transportation facilities. In each case, the change from one district to another causes a decline in the value of the property in the deserted district unless the growth of the city is fast enough to bring an offsetting gain to all property.

Deterioration of buildings.—The value of any building declines with age. The rate of depreciation depends upon the construction and use, and may vary from $\frac{1}{2}$ of 1 per cent to 5 per cent per annum. It is therefore apparent that under normal circumstances the property is not going to be worth as much when the mortgage matures as when it is given. Covenants requiring the mortgagor to keep the property in repair are seldom fulfilled with any degree of completeness. In addition to depreciation, deterioration of buildings as a result of obsolescence is common. New fire-proof, steel-constructed office buildings affect adversely the value of older buildings without these features. Styles in the architecture of residences change gradually and render less valuable the older houses.

Losses in foreclosure.—If default in payment necessitates foreclosure, considerable expense and trouble are incurred by the lender. This expense results from delinquent interest, delinquent taxes (including penalties and interest), delinquent assessments, court costs, attorneys' fees, repairs

after obtaining property, and commission for selling which may range from 1 per cent to 5 per cent. The total of these charges may increase the face of the loan from 10 per cent to 40 per cent. As most of these expenses increase with time, the total will vary according to the laws of the State. In the Southern States, notably Alabama, two years must elapse before the mortgagee may secure full possession.

Danger of forced sales.—Unless the lender is in a position to take over the property personally in event of foreclosure, he may be compelled to accept a large loss from the sale of the property under forced circumstances. The amount of such loss depends largely upon the activity of the local real estate market. Should there be an active market, the loss may be but 5 per cent to 10 per cent of the full value, whereas if the market is inactive, the loss may be over 25 per cent.

Mortgage safeguards.—The best protection against the foregoing dangers as a whole is to have a fairly large margin of safety (at least 40 per cent) between the mortgage loan and the value of the property. Inaccurate appraisal may be minimized by employing only experts who have had successful experience. Periods of depression may be guarded against either by making the loans for short terms or by providing for annual payments on account of the principal, which causes a smaller amount to be due when the depression arrives. Another protection is to choose classes of property like retail business buildings and single residences and avoid wholesale property, hotels, theatres and other special classes. Losses in values through neighborhood changes may be avoided through a careful study of present locations and future possibilities. Loss through deterioration will be small if substantial, improved property is pledged. Loss on foreclosure may be lessened by prompt action and the avoidance of localities where the laws are

unfavorable to the lender. Large losses on forced sales can be avoided by lending only on property in a locality where there is an active real estate market.

Title guaranty.—The mortgage will usually demand a guarantee of title on the part of the mortgagor. The usual custom in New York City and some other places is to have a title guarantee company issue a policy insuring the mortgagee against loss should the title prove defective. The policy guarantees (1) that the title is marketable, (2) the exact condition of the title in respect to other liens, (3) the payment of any litigation charges affecting the property, and (4) protection against loss by reason of defect in title if the assured sells with warranties. The amount of reimbursement for loss is limited to the face of the policy which is not assignable. A single, rather than annual, premium is charged. The fees for New York County have been: first examination, \$65, plus \$5 for each \$1,000 up to \$40,000 and \$2.50 per \$1,000 over \$40,000. Fees for reissue are \$32.50, plus \$5 per \$1,000 up to \$40,000 and \$2.50 per \$1,000 over \$40,000.

Guaranteed mortgages.—Many of the objectionable features of mortgages are removed through the purchase of guaranteed mortgages. Companies have been formed to purchase mortgages and assign them to investors. The company guarantees the payment of principal and interest, assumes responsibility for their collection, and attends to other matters of detail. The company's charge is $\frac{1}{2}$ of 1 per cent per annum. Guaranteed mortgages have proved popular, although the lender should remember that the guarantee itself depends upon the financial responsibility of the company.

Points of caution.—In view of the increasing popularity of real estate mortgages as investments, some words of caution are offered.

1. The mortgage should be a first mortgage. Not all real estate mortgages are such, even when so termed. First mortgages on property built on leased land are in effect second mortgages since the leaseowners have the first claim against earnings.

2. The security should preferably be residential property. Homes enjoy greater stability of value than do special utilizations such as office buildings, theatres, and the like.

3. The amount of the mortgage should not exceed two-thirds of the conservative value of the property. One prominent mortgage bond house advertises that it occasionally loans up to three-quarters of the value, but that annual amortization payments reduce the percentage to less than one-half by maturity. Amortization payments do act as a partial corrective, but often make the carrying charge of the property owner unduly oppressive. But not even large amortization payments and high earning power justify some flotations. An issue of \$3,000,000 on a business building was secured by a building costing that amount erected on land leased at \$115,000 annually. Not only was the mortgage up to 100 per cent but it was in reality subject to a prior claim which, capitalized at 5 per cent was equivalent to a senior mortgage of \$2,300,000.

4. The mortgage should be secured by property completely built; not in the course of construction. Estimated costs may show a satisfactory margin of safety but actual costs may greatly exceed the estimates. During the course of construction, the mortgage bondholders are in a most peculiar position. They have a claim inferior to other claims, such as mechanic's liens, against the property being erected for part of the proceeds of the issue and a pure debenture, or unsecured, claim upon the remainder of the proceeds which have not yet been expended. It is significant to note that certain issues are advertised as being

eligible for legal rating "after the building has been erected."

5. The trustee for the bondholders should be a non-interested financial institution. The trustee acts primarily in behalf of the bondholders and it is difficult to see any reason why the practice in the real estate field should differ from that in the corporate field in this respect. The custom of having a mortgage bondhouse act as trustee for its own issues is not entirely satisfactory from the investor's viewpoint.

Marketability of mortgages.— The outstanding advantage of real estate mortgages over bonds and stocks as investments is the higher return afforded. The great disadvantage is lack of ready marketability. The two should be considered together, since one accounts for the other. Records indicate that the return derived by large investors, such as insurance companies, over a long period of years averages 20 to 25 per cent higher than that secured from bonds and stock. On the other hand, had there been any necessity on the part of the companies, such as is constantly likely to confront the average investor, to convert a large share of the mortgage holdings into cash, a substantial sacrifice would have resulted. In other words, the superior advantage of mortgages as investments for insurance companies does not equally imply the same degree of advantage to the average investor. Unfortunately, the average person has at one time or another purchased securities unwisely and as a consequence attributes to mortgages a superiority not entirely deserved.

Real estate mortgages have limited marketability at best. In this regard they do not compare with securities listed on the various exchanges nor with unlisted securities which often have a fairly active market over the counters of "specialist" investment banking houses. The purchaser of a real estate mortgage bond who needs funds in an emergency

can liquidate conveniently only when the issuing house is willing to purchase. Holders of outright mortgages must shop around among acquaintances and institutions to locate a buyer. Naturally this inconvenience in marketing makes mortgages generally unsatisfactory as collateral for commercial loans. It is but logical to find this lack of marketability reflected in the relative rate of return. Unless mortgages did pay more, investors would prefer bonds and stocks. Marketability, to the average investor, is an intangible but highly important attribute.

Farm mortgages.—Mortgages on farm property are essentially similar to those on city real estate. The factors which must be analyzed to determine investment value are quite different, however. A discussion of the points of differences follows:

1. The value of city property is determined chiefly by the buildings erected on the land; mortgages secured by vacant city lots are not highly regarded. The value of farm property depends upon the productivity of the land itself, the buildings being of minor consideration. Sixty-six per cent of the combined land and building value is regarded as a safe maximum for mortgages on city property. Fifty per cent of the value of the land and twenty per cent of the value of the buildings are regarded as safety limits for farm mortgages.

2. Income from agricultural property is subject to far greater fluctuation than is that from city property. Farm operations are more of a gamble than is generally recognized. When the farmer starts production he has no assurance, as has the manufacturer, as to what his output, cost of production, or selling price will be. In some years, under similar productive methods, a given acreage will produce a crop twice that produced in other years. Climatic conditions, over which the farmer has no control, and insect

ravage, over which he has but limited control, have much more effect upon the volume of the crops than has the acreage planted. Moreover, small crops, owing to high prices, are sometimes more profitable than large harvests. Several poor years may come in succession, the cumulative effect of which is to reduce agricultural income and depress farm values. The concurrent difficulties are numerous defaults in farm mortgages at a time when foreclosure might result in loss of principal through sale in an unfavorable market.

3. The relative inaccessibility of the property makes inconvenient and often impracticable any attempt on the part of the investor to evaluate the security. City property is much more accessible. Cases have existed where advantage has been taken of this relative inaccessibility to put out mortgages beyond an amount warranted by the real value of the property.

4. Farm property varies in value to an extent greater than does city property. Such is the natural result of the extreme variations in earning power. The large earnings of the war and past-war years from 1915 to 1919 greatly inflated the value of farm property. The depression years of 1920 and 1921 brought drastic deflation and severely affected the position of mortgages based on the inflated values. In previous periods of agricultural depression, farm mortgages suffered severely, forcing many houses specializing in this field into receivership and bringing large losses to investors. This unfortunate experience with farm mortgages in the past makes them undesirable to many investors to-day.

5. Since 1916, the United States Government, under the Federal Farm Loan Act, has been facilitating long-term loans to farmers through the Federal Land Banks and the Joint Stock Land Banks. Loans are made at relatively low interest rates up to 20 years, secured by mortgages up to 50 per cent of the value of the land and 20 per cent of the

value of the improvements. The activities of these banks have greatly reduced the business of the private houses specializing in the field, and have brought about a much sounder condition generally. To the Federal Farm Loan system may be attributed the chief credit for the avoidance of large losses to investors in the agricultural depression of 1920 and 1921.

CHAPTER XIII

FIDUCIARY INVESTMENTS

Nature of fiduciary investments.—A large proportion, at least one-third, of present-day investments is transacted by persons acting in a fiduciary capacity. The term “fiduciary” is derived from the Latin *fiducia* meaning faith or trust. The basis of a fiduciary relationship is essentially one of trust. The circumstances under which the relationship may arise are varied. The functions of banking institutions and insurance companies and the administration of estates are well-known illustrations. The trust is usually a financial one and consists primarily in the safeguarding of funds that have been committed to the care of the fiduciary. It would be contrary to the best public interests and also to the disadvantage of the individuals for whom the trust exists if safekeeping were the only obligation of the fiduciary. Public and private needs, both of which may be essential to the well-being of the community at large, constantly require capital. The beneficiaries of the trust are entitled to the income which the fund may earn if put to productive use while in the care of the fiduciary. It therefore devolves upon those persons and institutions serving in a fiduciary capacity to keep the funds entrusted to their care invested in such a manner that a maximum of safety and income is procured for the beneficiaries.

Restrictions upon fiduciary investments.—Few persons acting in a fiduciary capacity are permitted to exercise their own judgment exclusively in the determination

of suitable investments for the funds in their care. State laws have been enacted in all sections of the country which restrict the investments of fiduciaries to a greater or less degree. Administrators of estates and trust funds often find that the authority under which they are appointed states definitely what they may and may not do in this respect. Because of this restrictive feature, the purpose of this chapter is not to suggest what are and are not good fiduciary investments. Fiduciaries in those States where the statutes are not over-restrictive will find the general principles stated throughout the book applicable to their commitments. The present discussion will be confined to a consideration of the investment possibilities of the three great classes of fiduciaries: trustees, banks, and insurance companies. The investments which these fiduciaries are permitted to make are known as "legal investments" in the respective States.

Investments of trustees.—Trustees may be divided into three classes: (1) trustees for individuals under wills or other documents creating trusts; (2) guardians; and (3) trustees for educational and charitable institutions. The instrument creating the trust will often specify the nature of permissible investments. The instructions may include such provisions as:

1. No stocks of any kind may be purchased.
2. No real estate may be purchased except for a home.
3. Investment must be restricted to first mortgages on real estate, not to exceed 60 per cent of market value; to bonds secured by first mortgages on railroads or public utilities of good reputation and long standing; and to municipal bonds.

In the absence of documentary instructions on the part of the founder of the trust, the State laws are effective. In

New York State, trustees may invest only in securities which are legal investments for New York State savings banks and in mortgages secured by unencumbered property in New York State worth at least 150% of the mortgage loan. An interesting difference is noteworthy on mortgage loans. Trustees are limited to 66 2-3 per cent on any property; savings banks are permitted to loan 60 per cent on improved property and are restricted to 40 per cent on unimproved. As a general rule, it may be stated that in States having statutory restrictions, trustee investments follow closely the savings banks requirements.

In the absence of both specific instructions and State laws, the general American principle applies. This principle, as has been stated, holds that "a trustee must observe how men of prudence, discretion and intelligence manage their own affairs, not in regard to speculation but in regard to permanent disposition of their funds, considering the probable income, as well as the probable safety of the capital to be invested."

Trustees are therefore responsible in event of loss to the trust fund from poor investments, only when such loss has resulted from fraud and undue negligence. The trustee, however, is required to use normal diligence and prudence not only in buying securities but also in watching them while held by the trust. Trustees are not permitted to invest beyond the legal restrictions, nor are they permitted to use a profit derived from one investment to offset a loss sustained in another commitment which involved carelessness or negligence.

The work of the trustee involves not only the investment of the fund but the necessity of keeping the fund intact while distributing the income to the beneficiaries. Problems of life tenant and remainderman, the amortization of bonds purchased at a premium and the accumulation of

bonds purchased at a discount, and the distribution of current, extra, and stock dividends, constantly confront the trustee. As these are largely matters of mathematical adjustment, further discussion is reserved for the chapter, "Mathematics of Investment", where the application of the correct principles is shown through practical illustrations.

Investments of savings banks.—Savings banks in New York and New England are of the mutual type. The usual statement that mutual savings are not operated for profit is somewhat misleading as it is not wholly correct. The distinction is that the profit of these institutions is distributed to the depositors rather than to stockholders. The State laws governing the investments of savings banks differ widely. Many States have no laws whatever for bank investments; other States make no distinction between permissible investments of savings banks and other banking institutions. The restrictions under the New York State law are regarded as very conservative and have been widely copied in enacting similar legislation in other States.

Restrictions on savings banks investments in New York State.—The legal investments for savings banks in New York State may be summarized as follows:

1. United States bonds.
2. New York State bonds.
3. The bonds of any State in the United States upon which there has been no default in interest within the 10 years preceding the investment date.
4. Bonds of New York State municipalities.
5. Bonds of any municipality in Vermont, Massachusetts, Connecticut, New Jersey and Pennsylvania, having a population of not less than 10,000.
6. Bonds of any incorporated city in any State other than those mentioned in (5), provided the city had a

population of at least 30,000 at the latest Federal census, and has not, within twenty-five years, defaulted in the payment of principal or interest on any of its bonds, and provided the net city indebtedness does not exceed 12 per cent of the real estate valuation.

7. Real estate mortgages in New York State, not exceeding 60 per cent of the value of improved property and 40 per cent on unimproved property. Not more than 70 per cent of the total deposits may be invested in mortgages.

8. First mortgage bonds of railroads, provided (a) there has been no default for 5 years prior on any bonds of the road, (b) that annual dividends of at least 4 per cent must have been earned or paid on all the company's outstanding stock during the preceding 5 years, and (c) that the capital stock must have been at least one-third the total mortgage indebtedness at the time the investment is made.

9. Certain other railroad bonds under detailed requirements even more stringent than those in the preceding paragraph.

10. Bonds of electric power or light, artificial gas, or telephone companies under certain restrictions.

New York savings banks are therefore prohibited from buying for investment purposes, stocks of any description, industrial bonds, mortgages outside of New York State, railroad bonds which are not first mortgages in whole or part, and real estate.

So successful has been the operation of the New York State law that default on a "legal investment" is practically unheard of. Investors who desire quality above all other attributes in a security will do well to confine their commitments to this list. And investors who have

neither the time nor the ability to distinguish between good and poor offerings will likewise find it profitable to choose from this class. The standards afford excellent criteria for judging the position of any security.

Restrictions in other States—Savings banks in States other than New York are not subject to such severe conditions. In Massachusetts, however, little difference may be found, a noteworthy distinction being that under certain conditions public utility bonds are legal investments. In fact, restrictions are generally stringent in the New England and North Atlantic States, are fairly liberal in the Central and Western States, and are almost non-existent in the South. It would be impracticable to state the various requirements of each State in a work of this nature, but the individual investor may readily ascertain the statutes in any State by writing to the Commissioner of Banking at the capital of the State, or by referring to the State and City Section of *The Commercial and Financial Chronicle*.

Investments of commercial banks.—Banking institutions, outside of savings banks, include National banks, State banks, and trust companies. The primary function of these institutions is to loan money on commercial paper, a discussion of which would open up the whole field of banking. The present purpose is to discuss the circumstances under which these banks purchase investment securities. Although secondary to commercial loans, the investments of banks are quite important. Two reasons prompt the purchase of investment bonds by the ordinary bank. The first is that the supply of loanable funds on hand may exceed the demand. A bank realizes no profit from unemployed funds. Rather than allow these "sluggish dollars" to remain in the bank vaults, the bank will purchase bonds on which it will receive interest. It goes without saying that banking institutions can use their funds

more profitably in commercial loans than in bond investments and therefore bond purchases, caused by temporary lack of commercial demands for money, are seldom permanent. An increase in the demand for money will cause the institution to market its bonds. Securities purchased for this purpose must first of all be marketable and this is the prime consideration from the standpoint of the bank.

A second reason why banks purchase bonds is to build up a secondary reserve. The establishment of the Federal Reserve system has obviated the necessity of a secondary reserve to a large extent, but many banks wisely follow their former practice. Each bank must carry a certain reserve, which means that a certain portion of its deposits must be held to meet the ordinary requirements of the depositors who usually have the right to obtain their funds on demand. All depositors will seldom ask full payment at the same time. In fact, experience has shown that under normal conditions, a bank is rarely obliged to pay out over 5 per cent of its deposits on any one day. The law provides that all National banks, and other banks which are members of the Federal Reserve system, must carry reserves of a certain percentage of their deposits, approximately 10 per cent but varying with localities, to meet the demands of the depositors. In ordinary times the banks carry a larger reserve than required, as a matter of caution. This extra reserve will not be required save under extraordinary circumstances and it is not regarded as good economic practice to keep the funds intact in the vaults. The banks usually purchase bonds with this extra reserve and hold the securities as a "secondary reserve." They are careful to purchase active, marketable bonds for this purpose so that the secondary reserve may be immediately converted into cash in case of an emergency.

A recent compilation showed that on June 30, 1925,

the approximately 29,000 banks of the United States had invested \$15,398,000,000 in securities, of which \$4,181,000,000 represented obligations of the United States Government and \$11,217,000,000, corporate securities. The ratio of investments to all earning assets of national banks increased from 22.9 per cent in 1914 to 31.1 per cent in 1925.

Investments of insurance companies.—The great growth of insurance, especially life, in the United States has placed in the possession of the insurance institutions enormous sums of money. The assets of the leading companies exceed ten billion dollars. This vast sum must be kept constantly invested so that the policy holders may carry their insurance at a minimum cost. State laws usually limit the available investments for insurance companies, but such legislation is generally less restricting than in the case of savings banks. The New York State law permits investment in United States, State, and municipal bonds, in first mortgages on real estate worth 50 per cent more than the mortgage, and, with certain restrictions, in interest-bearing corporate bonds.

The insurance companies have available for new investments each year (1) the surplus of policy premiums over all expenses, (2) the income from investments owned, (3) the principal payments on matured obligations, and (4) the proceeds from the sale of securities which are sold prior to maturity. In the aggregate this is a vast sum and probably exceeds one billion dollars. The investment of this capital requires most careful study on the part of the company officials.

As with other investors and within the limits prescribed by law, insurance companies seek those investments which offer the most attractive combination of safety and yield. But unlike private investors, the companies, since they are

using the money of the people at large, have certain obligations to keep in mind. The capital needs of the public, of the various localities, of the Federal, State, and local governing bodies, and of the policy holders themselves must constantly be kept in mind. The extent to which the companies have observed these principles was shown in a recent compilation which indicated that about 40 per cent of the total fund was equally divided between city and farm mortgages, about 25 per cent was invested in railway securities, about 20 per cent in domestic government bonds, and about 10 per cent in loans to policy holders. Geographical distribution is shown by the itemized record of one company with total assets of about \$250,000,000 and with only two States having less than \$100,000 and no State with less than \$50,000.

One of the sources of revenue indicated was the proceeds from the sale of securities which were sold prior to maturity. The entire matter of exchanging securities is treated elsewhere in the book, but at this point a specific reference is of interest. In 1923 the New York Life Insurance Company gained an additional income of \$1,000,000 annually for an average of nine years by selling \$45,000,000 of certain bonds and reinvesting the proceeds in other bonds equally desirable for the purpose of the company.

CHAPTER XIV

THE SMALL INVESTOR

Increasing importance.—The investor of limited means is becoming an increasingly important factor in the field. Corporations, especially public utility companies, are securing a large part of their new capital from customers who individually invest small amounts. About one-third of the transactions on the New York Stock Exchange represent purchases and sales of less than the minimum quantity of one hundred shares. Companies which formerly sold securities in large blocks to wealthy investors now find that channel restricted as a result of high tax rates and are trying to offset the loss of this market by selling in smaller units to persons of limited income.

In addition to the security market, other channels of investment usually open to the small investors are United States Government Treasury Savings Certificates, Postal Savings banks, mutual and stock savings banks, building and loan associations, and life insurance.

Investment policy for the average man.—The most advisable plan for the average person to adopt in investment matters is to follow these four commandments:

1. Buy life insurance. This is believed to be the surest and safest protection that has yet been devised for the public good.

2. Make regular additions to savings accounts. Such savings will provide a quick reserve against emergencies and

will permit accumulations to meet the other objects stated.

3. Own a home. Home-ownership is conducive to better citizenship and is itself an incentive to further effort.

4. Invest in sound securities. The purpose of this book is to help in this respect but it is recognized that before the average investor seriously considers the security field he should first achieve the three prerequisites herein listed. If he has done so, he is ready to enter the investment markets.

Baby bonds.—Bonds which are issued in lower denominations than \$1,000 each are popularly known as baby bonds. The denomination is usually \$100, but there are a few at \$50 and a great many at \$500. The fact that \$100 denominations are obtainable does not signify that this amount is exclusive. As a matter of fact all \$100 bonds may be obtained in denominations of \$1,000 as well. The only difference as to the bond itself, between the \$100 and the \$1,000 size, is the amount. Both are issued in precisely the same manner, have the same security, and are identical as to rate of interest, maturity, and other features. An appreciable difference is found in relative marketability, however. Despite the fact that there are a great many more possible purchasers of \$100 bonds, there is a greater demand for the \$1,000 denomination. This is because the larger size is better known, and small investors have not entered the bond market in sufficient numbers to create an active demand.

The development of a market in baby bonds is of recent origin, but the progress has not been so rapid as anticipated. In seeking a market, security dealers, like other business men, must consider the relation of expense to possible profit. At the present time, it is generally believed the expense incurred in the sale of a \$100 bond exceeds the profit. The small investor has not been educated to the \$100 bond. The smaller bond requires a greater selling expense in actual

outlay than a \$1,000 bond in which there is ten times the profit. Because of this fact, most investment houses are not keen about selling baby bonds, and those houses which specialize in \$100 bonds probably reason that the small investor of to-day is the large investor of to-morrow, and build for the future rather than the present. No business house may be criticized for declining to enter an unprofitable undertaking, and those few firms whose activities are primarily responsible for the present status of the \$100 bond market deserve considerable praise.

The prices quoted on \$1,000 bonds generally apply approximately to \$100 bonds of the same issue. A slight difference, lower if selling and higher if buying, usually occurs due to the more limited market. This difference, however, may be large as was recently illustrated when a small denomination bond of the Northern Pacific cost 110 at a time when the \$1,000 bond was quoted at 97 $\frac{1}{4}$.

The small investor not only suffers from the unfavorable market price, but also is compelled to pay a much higher proportionate commission charge. The minimum charge for buying or selling a \$100 bond is usually \$1.00 as compared to \$2.50 for a \$1,000 bond.

Hundred dollar bonds are available in all classes of securities, corporate as well as public. The appended list includes four leading classes and gives the market price as of the date of compilation (November 4, 1923):

HUNDRED-DOLLAR BONDS

RAILROADS

	Maturity	Bid	Asked	Yield
C., C., C. & St. L. 6's	1929	101	102	5.60
Canadian Pacific deb. 4's	Perp.	79	80	5.10
Colorado Southern 4 $\frac{1}{2}$'s	1935	81	83	6.55
Mo., Kan. & Tex. pr. 6's	1932	93	95	6.60
Mo. Kan. & Tex. pr. 5's	1962	77	78	6.72
N. Y. Central rfd 5's	2013	95	97	5.14

HUNDRED-DOLLAR BONDS

RAILROADS

	Maturity	Bid	Asked	Yield
N. O., Tex. & Mex. inc. 5's	1935	75	77	8.04
Northern Pacific 6's	2047	103	104	5.78
Pere Marquette 5's	1956	93	94	5.38
St. L., S. Fran. prior 4's	1950	66	67	6.68
St. L., S. Fran. prior 5's	1950	80	81	6.50
So. Pac. Frisco. Trm. 4's	1950	80	82	5.25
Virginian Railway 5's	1962	93	95	5.31
Western Pacific 5's	1946	78	80	6.71

INDUSTRIALS

American Rep. Corp. 6's	1937	88	90	7.15
American Smelters 5's	1943	91	92	5.68
Canada Steamship 7's	1942	93	95	7.45
Central Steel 8's	1941	107	108	7.55
East Cuba Sugar 7½'s	1937	98	100	7.50
Goodyear Tire 8's	1931	100	101	7.85
Lorillard 5's	1951	94	96	5.68
Swift & Co. 5's	1932	91	93	6.02
United Stores Realty 6's	1942	98	100	6.00
Winchester Arms 7½'s	1941	103	104	7.10

PUBLIC UTILITIES

Amer. T. & T. coll. 5's	1946	97	99	5.07
Bell Tel. of Penn. 5's	1948	97	98	5.11
Consumers Power 5's	1952	86	87	5.95
Kansas City P. & L. 5's	1952	90	91	5.87
Louisville Gas 5's	1952	86	88	5.82
Montana Power 5's	1943	95	97	5.24
Manila Electric 5's	1953	83	85	6.09
N. Y. Telephone 6's	1941	104	106	5.43
Portland Ry. & L. 6's	1947	92	94	6.49
San Antonio Pub. Ser. 6's	1952	91	93	6.55
Public Serv. of N. J. 7's	1941	100	102	6.81
So. Cal. Edison 6's	1944	..	98½	6.13
Tennessee Electric 6's	1947	92	94	6.51

FOREIGN BONDS

Argentine Government 5's	1945	76	77	7.07
Austrian Government 7's	1943	87	88	8.22
Canada 5½'s	1929	101	102	5.11
Chile Government 8's	1946	103	105	7.55
Czechoslovak 8's	1951	92	94	8.55
French Cities 6's	1934	78	80	8.88
French Government 7½'s	1941	94	95	8.07
French Government 8's	1945	98	100	8.00
Japanese Government 4's	1931	77	79	7.52
United Kingdom 5½'s	1937	101	102	5.29

Odd-lots of stock.—The units of trading on the New York Stock Exchange is 100 shares. Transactions involving 1 to 99 shares are therefore below the minimum and are termed odd-lots. These sales are conducted by specialists, known as odd-lot brokers, who combine the aggregate small transactions into 100-share units. About 30 to 40 per cent of the total transactions on the Exchange are represented by such combinations of odd-lot orders.

The price at which odd-lot orders are executed usually depends upon the next full 100 shares transaction recorded after the order is placed. A differential of $\frac{1}{8}$ or $\frac{1}{4}$ of a point, according to the marketability of the stock is applied, lower if selling and higher if buying. In addition, a commission charge of 15 cents per share, with a minimum of \$1.00 per transaction, is made.

In this manner, the entire investment security field is open to the investor of limited means. He is enabled to buy as small a quantity as one share of the stock of the largest corporations. Unfortunately, one result of this development has been to encourage speculation by people of small means.¹

The partial payment plan.—Stocks and bonds may be purchased outright or on the partial payment plan. This applies to a single share of stock as well as to \$1,000,000 worth of bonds, the difference being that all financial houses do not afford the same facilities, as many do not care to deal in baby bonds and odd-lots.

¹The President of the New York Stock Exchange said recently: "I think it is a duty to prevent men of small means, with a few hundred dollars, from buying on margin or from dealing in stocks. I believe that trading on the part of the man who buys five, ten, or fifteen share lots of stock on margin is, to put it mildly, a pity. He is practically a sure loser. That man should put his money in the bank and leave trading in stock alone. After he has saved money in the bank he should go to a legitimate broker and buy the right stocks on the advice of his broker or his banker."

The purchase of securities on the partial payment plan is quite analogous to margin trading. Since margin trading is invariably associated with speculation, a possible objection to the instalment method becomes immediately apparent.

The margin trader, in buying securities, deposits with his broker a certain sum which represents only part of the purchase price; the broker advances the remainder and holds the security for the protection of his own commitment. The amount deposited by the customer is termed his "margin" and represents his equity. The broker will hold the stock until the customer instructs him to sell. The profit or loss which ensues as a result of change in market price belongs to the customer. The amount advanced by the customer is all that he normally expects to contribute, unless perhaps a substantial drop in market price necessitates an increase in the margin to protect the broker's investment. While the stock is held on margin, whatever dividends may be paid, belong in full to the customer though his margin may represent but 10 per cent of the total cost. The broker protects his advance by charging interest at current rates while his capital is "tied up."

At the first step, partial payment purchasing is pure marginal trading, initiated with a different purpose. The investor pays a certain amount as the first payment, which will average about 10 per cent of the total price of his investment. The investment house advances the remaining 90 per cent, purchases the security, and holds the security as collateral for its loan. The balance of 90 per cent due from the customer is payable at regular intervals, usually 10 per cent a month for the following 9 months. The interest or dividends accruing on the security belong to the investor who is charged interest, usually at the rate of 6 per cent per annum, on his unpaid balance.

Two dangers, one psychological and one actual, are in-

volved in partial payment purchasing. The temptation to become a straight margin trader is difficult to overcome. The monthly payments are optional; it is easier to allow them to lapse than to keep them to date; and the account readily becomes a purely "margin" transaction. One of the supposed advantages in the installment method of purchasing is the fact that inability to maintain the payments simply changes the account to a marginal basis. This is a questionable advantage. The second danger lies in the selection of the house through which the investment is made. Needless to say, the installment plan means a greater expense to the house than outright purchase. Because of this fact, there are not many houses willing to do business on such a basis, and of those houses that do show a willingness, it is no more than fair to inquire into their financial integrity. The fact that a house will deal in installment payments is not of itself objectionable, for there are many reputable houses that sell in this manner. But the fact remains that partial-payment dealing is more expensive and bothersome than outright purchasing and there have been cases of firms which entered this field to derive their profit through questionable methods. It should be remembered that the financial house retains possession of the security until final payment, that until such time as the investor obtains his security the transaction is a pure credit relation, and that the financial house has the right to hypothecate, loan, or otherwise make temporary use of the security. In event of the failure of the house, the investor becomes a general creditor as he has no lien upon his security. It is, therefore, of utmost importance that investments on the partial payment plan be purchased only through houses of unquestioned integrity.¹

¹ We are in general opposed to the purchase of securities under the partial payment plan on account of the many hazards involved

Customer and employee investments.—Many corporations are endeavoring to increase their working capital and at the same time to build up customer and employee good-will by selling their securities to such individuals in small lots and often on the partial payment plan. This is particularly true of public utility companies. Generally speaking, such investments are well secured and offer advantageous opportunity to small investors. The companies have naturally more than the ordinary interest in the position of their securities when customers and employees are large holders. Incidentally, the objection to the partial payment plan previously referred to does not hold in cases of this kind when securities are sold directly by the issuing company. Purchasing indirectly through brokerage houses is entirely a different matter.

Treasury savings certificates.—These certificates have been devised by the Government to provide a safe means

in its operation. To begin with, an investment house cannot afford to handle this type of business unless the margin of profit on the securities offered is quite large. The business cannot be handled at a profit when transacting on a commission basis. In our investigation of partial payment plans, we find that the average amount of securities purchased under the various plans advertised amounts to considerably less than \$5,000. Taking \$5,000 as an example, the commission on this transaction would be \$7.50. The ten payment plan, aside from the great cost of developing this business, entails the cost of correspondence, consummation of the transaction, acknowledgment of the ten payments, costs of bookkeeping, etc., which in the aggregate would be greater than the commission received without taking into consideration the overhead. The twenty payment plan, naturally, entails a greater cost. If this plan is handled on other than a commission basis, the profits must be fairly large, and in the majority of cases the securities are part of new issues, and very few can be classed or given an 'A' rating, as all new issues given an 'A' rating can be readily disposed of without involving the expense of partial payment plans. In addition, the investor not only assumes the normal risk involved in the owning of securities but must depend on the financial stability of the house through whom he transacts business, as this house not only holds the security but all the payments until the final one is made."—*From circular of an investment banking house.*

of investment to the person of limited income. They mature in five years from the date of issue at fixed values of \$25, \$100, and \$1,000. The certificates cost respectively about \$20, \$80, and \$800, depending upon market rates when issued. No interest is paid during the term of the certificates, but is allowed to accumulate at the rate of about 4 per cent compounded semi-annually. The difference between the cost price and the redemption price thus represents the accumulated interest. If the holder desires redemption prior to maturity, such option is provided, but interest is paid at the rate of but 3 per cent for the expired period. The income at maturity is exempt from Federal normal income tax and all State and local taxes. Individual investors are limited to an aggregate of \$5,000 maturity value for each calendar year of issue. These certificates are highly recommended for small investors who desire to save systematically. The Government has adopted a policy of withdrawing these certificates from sale whenever market interest rates are especially low.

Postal savings banks.—The Post Office Department of the Federal Government provides a safe depository for savings in the form either of deposit accounts or Postal Savings bonds. Individuals are permitted to deposit up to \$2,500 and are paid simple interest at the rate of 2 per cent annually. Deposits may be exchanged for $2\frac{1}{2}$ per cent Postal Savings bonds in denominations of \$20, \$100, or \$500. These bonds are redeemable on demand at par and accrued interest. The yield on Postal Savings accounts is so small that no attraction is afforded to the ordinary individual.

Savings banks.—Savings banks offer the very best investment opportunity for the average individual with a few hundred dollars to invest. All savings banks are not equally good, however. Two types are found in the United States,

mutual and stock. Mutual savings banks have no stock and are owned exclusively by the depositors. All earnings in excess of expenses become the property of the depositors. Under New York and Massachusetts State laws, all savings banks must be mutual. The stock savings bank is a regular stock corporation, and the profits, after expenses and a distribution to depositors are taken care of, go to the stockholders. The mutual form of organization is obviously preferable from the standpoint of the depositor.

Savings banks are subject to specific laws in effect in the respective States. These laws may be very exacting, as in New York and Massachusetts, whereas in some Western States they may contain but a sentence or two. State laws usually specify the nature of investments in which the funds may be committed. As explained in the chapter, "Fiduciary Investments," the restrictions may be severe. Because the investments of savings banks are thus confined to the best securities, it is evident that a maximum of safety accrues to the depositors. Savings banks operate at an expense of somewhat less than 1 per cent on deposits and therefore generally pay dividends on a basis of about 1 per cent less than the market rate of return.

The argument is often used with savings bank depositors that they should not permit the bank to make this 1 per cent margin; they should invest directly in bonds and secure the entire return. There are many objections. Most savings bank investments are not obtainable in denominations of less than \$1,000 each. The principle of distribution of risk allows the savings bank to suffer an occasional loss, even in New York State, without affecting the net profits to an appreciable degree. One loss to an individual is serious. The objections to savings banks, such as the low rate of return, the loss of interest on deposits and withdrawals at odd dates, and the general indifference of the officials to the

depositors, are more than offset by the advantage of receiving as high an income as is consistent with almost perfect safety.

Savings banks exist for poor people primarily and for them they serve admirably. The capital of the man of means is not desired, and for that reason, the maximum account is generally restricted to \$3,000. An individual with more than \$1,000 to invest who seeks the savings bank as an investment for his capital either lacks a normal degree of courage, or makes self-confession that he is an investment illiterate.

Building and loan associations.—The original significance of these associations has disappeared as few, if any, of the modern associations conduct building operations, leaving that function to their members. The usual method of conducting an association is to issue shares in series at regular intervals, usually yearly. These shares require the payment of a fixed sum either monthly (\$1 per month) or weekly (25 cents per week). The payments are compulsory, a fine being imposed for non-payment (approximately 1 cent per share per week). The "dues" received from the shares are invested and interest is credited to the shareholders, and compounded with the principal until the total reaches a fixed sum, usually about \$250, at which time the share matures and the full cash value may be withdrawn. The funds of the association are chiefly invested in loans to the shareholders in either of two ways. A sum equivalent to a multiple of the maturity value of one share is loaned on real estate valued in excess of the loan. The borrower takes out a number of shares with a maturity value equivalent to his loan, and makes regular payments. Upon maturity, the cash value of his shares equals his loan and one cancels the other. The other method is to loan to members on the cash value of their shares at the time of the loan.

Interest is charged and payable with the regular dues. In Ohio, most building and loan associations conduct a regular savings department, accept deposits in any amount, and pay interest as long as the money remains on deposit. There are a great many different methods of issuing shares, accepting deposits, crediting interest, and permitting withdrawals, far too numerous to mention here.

As a general rule, the associations consider only first mortgages on improved property, preferably dwelling houses, up to 60 per cent of their value, not exceeding \$10,000 on any single loan, and located within 25 miles of its office. If such investments are not available, surplus funds are usually invested according to savings banks requirements. To the investor who is building or buying a home, the services of these associations will prove valuable. To other investors, the channel for investment commitment is less attractive.

Life insurance.—Life insurance constitutes the best form of quasi-investment in the United States. Most of the companies are very strong financially and little risk is involved. Yet insurance and investment are not one and the same. As a combination, life insurance is excellent; but as a pure investment, insurance is not attractive as it seldom returns over 3 per cent. Life insurance may be had in many forms, the three most popular being straight life, limited-payment, and endowment. Which is the best depends upon the individual, and a full discussion of that problem does not come within the scope of this work. But because the premiums are compulsory under pain of lapse of policy, insurance does provide a good method of saving money. From an investment standpoint, it is poor business to have to pay to save—the loss in income return is equivalent to that much expense—and the individual who can save without such compulsion will normally profit through a higher return

from a more optional form of investment. A word of caution as to what a good life insurance policy should give the holder may not be too far afield at this point:

"Your life insurance ought to have the following features: It should be non-forfeitable—that is, in case you do not pay the premium, what you have paid in should be credited to you to protect you as long as that amount of money ought to protect you; it ought to give you thirty days of grace to pay your premium; it ought to provide for cash loans, cash surrender value and extended insurance; it ought to be incontestible, after a reasonable time, for any cause. If you have a policy in a strong solvent company which provides these features, you may consider it modern insurance of the best sort."¹

¹ "Investors' Guide," H. E. Maule and J. R. Merriam.

CHAPTER XV

SECURITY PRICES AND ECONOMIC CONDITIONS

Why security prices change.—Security prices are constantly changing in a manner similar to that which prevails in the commodity markets. One may easily understand why the price of cotton is not constant. Changing conditions of demand and supply subject the price to wide fluctuations over a given period. But one may not so easily understand why security prices should vary almost daily. Why should not a \$1,000 bond of the United States Steel Corporation always command a market value of \$1,000? Why at one time should the common stock of the General Electric Company sell as low as \$120 per share and a short time thereafter sell above \$170 per share? One might say that the cause, as in the commodity markets, is changing conditions of demand and supply. But obviously demand and supply in the security markets are based upon factors different from those which exist in the commodity markets. Demand does not arise out of consumptive requirements nor is supply dependent upon the output of producing agencies.

The chief factor which determines the market price of a security is the income derived therefrom. It is for this reason that the nominal, or par, value is seldom the same as the market value. Investors are willing to pay a price in accordance with the income that may be derived, quite

irrespective of par value. Pennsylvania Railroad common stock has sold at \$45 per share at the same time that Erie stock sold at \$30 per share, despite the fact that the par value of the former was \$50 per share, and the latter, \$100.

In the consideration of income, the investor is mindful of stability as well as amount. The security upon which the payment of interest appears more certain commands a better price than another in a weaker position, even though the interest payments are equal. The 5 per cent bond of a company usually sells at a higher price than the 5 per cent stock of the same company, because the bondholder is more certain of receiving the income payment.

Security prices therefore depend chiefly upon income payments. The stability and amount of these income payments depend, in a large measure, upon changing economic conditions. But, as classes, bonds, preferred stocks, and common stocks are not uniformly affected. A single economic development may cause bonds to rise and stocks to fall.

Why bond prices change.—The current price of any bond depends, if there is no question about the solvency of the issuer, upon the relationship which exists between the nominal interest rate which the bond bears and the current market rate of investment income which may be derived from a similar security. Quite regardless of the financial strength of the company, a 5 per cent bond cannot be sold for par value when the current yield obtainable from such securities is 6 per cent. In 1923, certain bonds of the General Electric Company, a corporation with almost unlimited resources, sold below 80 per cent of par value. This was because the bonds were not due until 1942 and because the nominal interest rate was only $3\frac{1}{2}$ per cent in a market which demanded a 5 per cent yield.

It is obvious that any tendency on the part of market

interest rates to rise requires that the yield obtainable on bonds rise in proportion. Since the price of a bond is determined more by its yield than vice versa, the price of bonds must decline to afford the purchaser the higher yield which is then demanded. On the other hand, if market interest rates are falling, bond yields become lower in parallel, and cause advances in the market value of the bonds.

An illustration may help clarify this fundamental principle of changing bond values. A 20-year 5 per cent bond commands a market price of par, or \$1,000, in normal times, which may be assumed in this case to be when the current market rate is 5 per cent. If times become abnormal, and the market rate advances to 6 per cent, then investors will demand that this bond sell at a price to yield 6 per cent. Their demand is justified upon the grounds that this return can be secured elsewhere upon securities equally desirable. The bond declines in price to $88\frac{1}{2}$, or \$885, to permit the investor to realize a return of 6 per cent when he calculates the annual income against the cost of the bond. On the other hand, if the market rate of interest declines from a normal position of 5 per cent to 4 per cent, investors must be willing to pay a price for the bond which will afford a yield of this amount. The bond rises in price to $113\frac{3}{4}$, or \$1,137.50. In summary, a 5 per cent 20-year bond in a 4 per cent market is worth about \$1130, in a 5 per cent market about \$1,000, and in a 6 per cent market about \$885.

The trend of bond prices depends chiefly upon the trend of interest rates. Higher interest rates make for lower bond prices; lower interest rates make for higher bond prices. It now becomes pertinent to inquire into the matter of changing interest rates.

Why interest rates change.—Interest rates depend

upon the demand for and the supply of loanable funds. When business is active, the demand is large, and the supply, due to employment in current activity, is limited. At such a time, interest rates are relatively high. When business activity declines, the demand falls off, the supply increases, and interest rates lower. When business is dull, the demand is small, the supply is large, and interest rates are relatively low. When business is improving, demand for funds for expansion purposes increases, the supply is somewhat reduced, and interest rates move up.

The four stages of business activity indicated succeed each other in the order given. Since interest rates are relatively high in a period of abnormally high business activity, bond prices are concurrently low. This is the most advantageous time to buy bonds. And since interest rates are relatively low in a period of business depression, bond prices are then high. This is the most advantageous time to sell bonds. Bond prices decline when interest rates are advancing, and increase when interest rates are lowering.

Bond prices, as a class, therefore, depend upon interest rates, which, in turn, depend upon the varying degrees of activity which succeed each other in the general commerce of the country and the world. A discussion of these economic conditions is reserved until consideration has been given to causes governing the trend of stock prices.

Why stock prices change.—The current price of a share of common stock depends upon the earning power of the issuing company. The stockholder is a part-proprietor, and his principal right is to share in the profits. The value of this right logically depends upon the degree of prosperity achieved by the company. Earning power, of course, means the degree of prosperity, or, in other words, the relative ability of the enterprise to show satisfactory profits.

The price of a share of common stock reflects the past, present, and estimated future earning power of the company. The average investor studies past and present earning power chiefly as a guide in the determination of what the earning power is likely to be in the future. If the past record is satisfactory, the presumption is that the future will be equally so. Hence the tendency of past earning power to affect current price. But investors, especially the best informed, also endeavor to study earning possibilities in the immediate future, which may vary from those in the immediate past. If the outlook is unfavorable, investors will be inclined to sell their holdings, and this selling movement will tend to lower the price of the stock. If the outlook is favorable, investors will be encouraged to buy the stock and this buying movement will tend to increase the price. This method of buying or selling stocks in anticipation of a change in the earning power of the company is simply a matter of discounting the future. Discounting operations often cause the market price of a security to decline, despite good current earnings, and to rise in the face of poor current earnings.

It is interesting to note, however, that investors seldom, if ever, attempt to discount developments more than one year in advance. True enough, there were many far-sighted investors who bought public utility stocks when there was a great depression in this class in 1918 and 1919 and who realized that it would take several years before substantial appreciation would result. But the great run of investors rarely endeavor to look beyond the next six months. So many investors do try to look this far ahead, however, that business men have come to regard changes in stock prices as one of the best barometers of changes in general business conditions.

The trend of stock prices depends chiefly upon the trend

of corporate earnings. Increasing earnings make for higher stock prices; decreasing earnings make for lower stock prices. Inquiry must now be made into the causes which govern the degree of corporate prosperity.

Why corporate earnings vary.—The degree of prosperity accruing to the average enterprise in any given year is usually in direct proportion to the degree of business activity during that year. While this is true of all companies, it is particularly so of industrial enterprises as distinguished from utilities and railroads. When trade is active, demand for commodities and services is large and sales prices are high. Profits are abnormally great because of both increased volume of business and larger margin of profit on each transaction. When trade declines, profits likewise decrease. When trade is dull, profits are small because of both small volume of business and narrow margin of profit. When trade is recovering, profits are usually increasing.

The consequent assumption is reasonable that stock prices should be high in a period of marked business activity and low in a period of depression. Indeed, if stock prices were governed solely by current earnings, the most advantageous time to buy stocks would be in periods of depression; and the best time to sell would be in periods of great activity. But because future earning power, favorable or unfavorable, constantly affects current prices, the wisest investors usually sell stocks before the top of the business boom has arrived and buy before the bottom of the period of depression has passed.

Stock prices, as a rule, therefore, depend upon corporate earnings, which, in turn, depend for their relative volume upon changing economic conditions. And since the same causal factor was found to underlie the movement of bond prices, though with different effect, discussion of these con-

ditions and the manner in which they change now fits into the development of the subject.

The cycle of business activity.—The commercial experience of the United States forms the basis for the widely-known economic law that business and trade are subject to alternating periods of prosperity and depression. At one time business is most active and then ensues a phase of declining volume which is usually followed by a period of marked depression. Eventually, business gradually recovers and again enters a period of activity. Although similar cycles are constantly recurring in American business, no definitely uniform time to complete a given cycle exists for the accomplishment of the entire movement through the various stages. The average duration has been about 40 months for the complete cycle. However, some have been completed in less than 3 years while others have required over 5 years.

No universally accepted reason has been advanced as to why business conditions should follow this cyclical movement. Numerous theories seem to explain certain cycles, but are not applicable to others. The investor can leave the debate to the economists and profit by what experience has taught to be true, regardless of precisely why it should be so.

Characteristics of the different stages of the business cycle.—It is important to know the investment policy which is most advisable at each stage of the business cycle. But before such policy may be put into effect, the investor must be able to determine approximately the present position of business in the current cycle. Certain economic characteristics distinguish each phase of the cycle and their concurrence should enable the investor readily to determine the position of business at any given time.

The most satisfactory single index of business activity

is the rate of production of pig-iron. Pig-iron is widely used in manufacturing and has been called the daily bread of industry. An abnormally high rate of production is indicative of great activity in industry and trade just as an abnormally low rate reflects depression. An increasing volume of output following depression signifies the recovery stage of the cycle just as a decreasing volume after a boom period reflects the liquidation stage.

Other indexes may also be watched for this purpose. Commodity price levels are high in a period of activity, falling during liquidation, low in depression, and rising during recovery. The same is true of interest rates, of wages, of the volume of employment, of car loadings, of corporate earnings, of bank debits, and of bank loans. Upon occasions, some of these movements lag behind the general trend and accordingly it is believed more advisable to watch the trend of several than to base judgment upon the movement of any single index. This was clearly illustrated in 1920 when pig-iron production failed to register any material decline before the end of the year although trade fell off abruptly during the summer and fall months.

Investment policy in a period of depression.—The characteristics of a period of depression are:

1. Low commodity prices.
2. Widespread unemployment.
3. Low wages.
4. Low interest rates.
5. Low pig-iron production.
6. Reduced corporate earnings.
7. Low car-loadings.
8. Reduced volume of bank debits.
9. Low volume of bank loans.
10. Low prices on stocks.
11. High prices on bonds.

During such a period, the advisable policy is to buy, rather than to sell, stocks, and to sell, rather than to buy bonds. This reasoning is based upon the probabilities that the next change in economic conditions will tend to cause stocks to rise and bonds to fall in value.

Investment policy in a period of recovery.—The characteristics of a period of recovery are:

1. Rising commodity prices.
2. Less unemployment.
3. Higher wages.
4. Slowly rising interest rates.
5. Increased pig-iron production.
6. Better corporate earnings.
7. Increased car loadings.
8. Increased volume of bank debits.
9. Increase in bank loans.
10. Rising prices on stocks.
11. Declining tendency in bond prices.

During this period, the advisable policy is to accumulate stocks and to liquidate bonds since both the bottom of stock prices and the top of bond prices have been passed. The probabilities at this stage are that stock prices will continue to rise and bond prices continue to fall with the economic developments of the immediate future.

Investment policy in a period of prosperity.—The characteristics of a period of prosperity are:

1. High commodity prices.
2. Practically no unemployment.
3. High wages.
4. High interest rates.
5. Large pig-iron production.

6. Large corporate earnings.
7. Heavy volume of car-loadings.
8. Large volume of bank clearings.
9. Large volume of bank loans.
10. High prices on stocks.
11. Low prices on bonds.

At this stage, the best policy is to sell stocks and buy bonds to take advantage of the favorable markets which now exist in both classes. The probabilities now are that the ensuing change in economic conditions will make for lower stock prices and higher bond prices.

Investment policy in a period of decline.—The characteristics of a period of decline, or of liquidation as it is also called, are:

1. Falling commodity prices.
2. Increasing unemployment.
3. Wage reductions.
4. Slowly falling interest rates.
5. Decline in pig-iron production.
6. Decreasing corporate earnings.
7. Decline in car-loadings.
8. Decline in bank debits.
9. Decline in bank loans.
10. Decline in stock prices.
11. Advance in bond prices.

In this period, the purchase of stocks is not advisable. Surplus funds may more profitably be placed in bonds. The prospect is that stocks prices will continue to fall and that bond prices will advance before the cycle will again start on the up-swing.

Converse movement of security prices.—Clear indication has been given that investment policy should not be based upon the assumption that stock and bond prices always move in parallel. Indeed, the opposite tendency is shown. During certain periods, both may move together as low interest rates make for high bond prices and also encourage speculative purchasing of stocks. But since the causal factor operating directly to affect stock prices, that is, corporate earnings, differs radically from that influencing bond prices, that is, relative interest rates—since large corporate earnings tend to make stock prices rise and since the concomitant, high interest rates, tends to make bond prices fall—over any extended period the movement of stock prices will be converse to that of bond prices rather than in parallel.

Permanent and temporary investments.—The discussion in this chapter may seem to run counter to the idea that the true investment should be made on a permanent basis. The theory is that the investor should make a long-term commitment and therefore should pay little or no attention to the constant fluctuations in economic conditions. Such an attitude had greater justification some years ago when comparatively little was known about the uniformity of business movements. Obviously, however, whether the commitment is to be for a short or long period, the investor should no more buy stocks in the expansion stage of the cycle than he should buy bonds in the depression stage. Nor is there economic justification for selling stocks in the depression stage or selling bonds in the expansion stage. The most advantageous times to buy and to sell have been indicated. An investor may scarcely be called a speculator if he attempts to take advantage of such opportunities when he desires either to purchase or sell securities.

The position of preferred stocks.—Preferred and guaranteed stocks should not be classed with common stocks in the interpretation of the suggestions offered in this chapter. An increase in earnings does not tend to increase the dividends payable on the preferred stocks of the company, although it does so with the common stocks. Preferred and guaranteed stockholders, like bondholders, are forever limited to the stipulated rate of preference. Holders of the United States Steel Preferred will never receive more than 7 per cent dividends even though earnings may be extremely large.

Preferred stocks with long dividend records, and guaranteed stocks, should be considered on the same basis as bonds for the purpose of this discussion. Preferred stocks with intermittent and poor dividend records should be considered in the same class as common stock.

High and low variations.—Caution is urged to prevent any misconception of the degree of uniformity in security price changes. It is true that stock prices generally are high in periods of prosperity and low in periods of depression. But the reference is to average prices rather than to all prices. Corporate prosperity is never uniform, even in any given year. Makers of automobile tires in 1923 had a poor year, although automobile manufacturers reported large earnings. The price of an individual stock varies with the individual fortune of the company. These exceptions point out the necessity of separate analysis to determine whether the company in question is out of line with the general trend. But they do not invalidate the major premise—that, generally speaking, stocks are more advantageously bought in periods of depression and sold in periods of prosperity, and that bonds are more advantageously bought in periods of prosperity and sold in periods of depression.

CHAPTER XVI

THE TAXATION OF INVESTMENTS

Personal taxation.—Investors find themselves surrounded by taxes. Personal property, income, transfer, and inheritance taxes are constantly presenting problems. No attempt can reasonably be made in a book of this size to more than indicate the nature of these problems. Moreover, with new laws and new rates being continually put into force, much that might be stated at any given moment quickly becomes obsolete.

The Federal Government taxes income from securities, stock transfers, and the principal of securities in inheritances. State governments tax income, transfers, and inheritances. Local governments, in some instances, tax securities as personal property on the same basis as real property.

If all securities came uniformly under tax laws, the problem of the investor would be relatively simple. But certain securities enjoy definite tax exemption, while others seem to be subject to unreasonably large tax burdens. Consequently tax position of a security is a factor of large importance to the investor.

Federal income taxes.—The taxation which chiefly affects the investor is that imposed under the Federal revenue acts. Federal income taxes lead in this respect. Under present legislation two rates are applied, namely, a relatively small "normal" tax and a graduated "surtax." The normal tax applies to all taxable income over the per-

sonal exemption. The surtax applies to all taxable income over a certain minimum and is in addition to the normal tax which is charged against the same income. Under legislation in effect as this is written, a normal tax rate of 5 per cent and a surtax of 12 per cent apply against the amount by which net income exceeds \$44,000 and does not exceed \$46,000, making a total Federal income tax of about 17 per cent.

Not all securities are subject to these taxes, however. Cash dividends received by stockholders are entirely exempt from the normal tax, although interest received by corporate bondholders is subject to both normal taxes and surtaxes. Interest received by holders of United States Government bonds is exempt from the normal tax and, in many cases, also from the surtax.

Profits derived from the sale or exchange of securities are taxed on the same basis as income derived therefrom, or may be subject, at the option of the investor, to a special capital gain tax, in lieu of the normal and surtaxes.

FEDERAL INCOME TAXES

(EFFECTIVE IN 1928)

<i>Taxable Income</i>	<i>Total Tax Rate</i>	<i>Yield on Tax-Exempt Securities</i>				
		4%	4½%	5%	5½%	6%
\$20,000	10%	4.44	5.00	5.55	6.11	6.67
Corporation Tax	12	4.54	5.11	5.66	6.25	6.82
50,000	18	4.88	5.49	6.10	6.71	7.32
75,000	23	5.19	5.84	6.49	7.14	7.79
100,000 and over	25	5.33	6.00	6.67	7.33	8.00

INTERPRETATION: An investor with a taxable income of \$75,000 must receive a yield of 5.84% on a taxable bond to give a return equal to 4.50% on a tax-exempt bond.

Tax-exempt securities.—Investors deriving large incomes seek those securities which are exempt to the greatest

degree from Federal income taxes. Certain securities as a class are exempt from these taxes and accordingly enjoy greater marketability. These securities include the following:

- 1 United States Government bonds issued prior to April of 1917.
2. First Liberty 3½'s of 1947.
3. State and municipal bonds.
4. Federal Land bank bonds
5. Joint Stock Land bank bonds.
6. Territorial bonds (Hawaii, Porto Rico, and Philippines).

Under tax rates in effect at the time of writing, an investor whose income is subject to the highest surtaxes must receive a return of about 6 per cent upon a taxable security to equal the return obtainable from the purchase of a tax-exempt bond yielding 4½ per cent.

The result of this taxation policy is to encourage the divergence of new capital from the corporate to the public field. The policy is thought by many to be unfortunate, since corporate expenditures are usually more productive than public. Moreover, public authorities are induced by favorable investment markets for their bonds to engage in extravagant undertakings. Many believe that the principle of tax-exemption of securities is unsound and measures to prevent further exemptions are constantly being suggested. Such legislation, if ever enacted, will apply against future issues only, as it could not fairly be made retroactive against securities already outstanding. The total volume of tax-

exempt securities outstanding on January 1, 1924, was officially estimated at \$14,670,000,000.

Effect of tax reduction.—A more or less gradual reduction in Federal income taxes is likely to occur for many years to come. As the war debt is reduced, lower taxes will become possible. The peak was passed in August of 1919, and since then the National debt has been materially reduced. Under present fiscal policy, the entire war debt will be liquidated by 1952.

As taxes are lowered, tax-exempt securities will proportionately lose their advantage over taxable investments. This development in all probability will not come suddenly. That it has already been discounted to a large extent, however, may be seen from noting the narrowing margin between the yields of tax-exempt and high-grade taxable bonds.

State income taxes.—Some of the States have followed the action of the Federal Government by enacting State income tax laws. New York State will serve as an example. Residents of the State and non-residents deriving income from within the State are subject to a graduated State income tax in addition to the Federal income tax. In fact, allowance is not made even for the amount paid as Federal tax. Nor are bonds of other States and municipalities therein exempt from the New York State tax. United States Government securities, however, are fully exempt. While it is true that present rates of State income taxes are relatively small, the tendency may be for such taxes to increase as Federal taxes are reduced. It is noteworthy that during the period from 1920 through 1923 total taxes collected by Federal, State, and local authorities increased substantially, despite a large concurrent reduction in Federal collections.

Federal estate taxes.—The Federal Government imposes inheritance taxes in addition to other taxes.

Unlike income taxes which apply against the amount of the annual return, inheritance, or estate taxes, as they are more commonly termed, apply against the principal of the fund. Under legislation in effect at this writing, a graduated tax starting at 1 per cent on an amount exceeding \$100,000 to a maximum of 20 per cent on an amount over \$10,000,000 is collected.

As no securities are exempt from these taxes, the problem of inheritance taxes differs from that involved in income taxes. If an estate is large, provision must be made for convenient payment of the tax without sacrifice to securities in the estate. Transfer of property made in contemplation of death is likewise subject to these taxes.

Estate taxes have their greatest disadvantage in that they act as a deterrent to the accumulation of wealth. Less opposition to these taxes would be met if the revenue collected were applied, not as at present into the general fund from which all disbursements are made, but into a special fund to be used exclusively for public betterment purposes.

State inheritance taxes.—Practically all States now impose inheritance taxes of from 1 to 40 per cent which are in addition to the Federal Estate tax, although a substantial credit is allowed on the Federal tax. An investor's estate is taxed not only by his own State of residence, but often by the States in which the companies whose securities he holds are incorporated, and by the States in which these companies own property. New York Central stock is subject to the inheritance taxes of New York, Pennsylvania, Ohio, Michigan, Indiana, and Illinois, in addition to the State of residence, and the Federal Government. In some States, securities of local corporations and local municipalities are exempt from inheritance taxes, but generally speaking all securities are taxable. Even in cases of doubt, the expense, annoyance, and delay in ascertaining whether there

is a tax applicable adds considerably to the tax burden.

In view of the conflicting jurisdictions, investors will do well to consider seriously the effect of these laws. Much can be done to lessen and legally to avoid many of the burdensome taxes and fees. Six methods are suggested:

1. Buy securities favorably situated from an inheritance tax standpoint, and sell others.
2. Prepare the will so as to take advantage of exemptions permitted certain beneficiaries.
3. Form a personal holding company.
4. Create a trust.
5. Carry sufficient life insurance.
6. Select a favorable State of residence.

The method most suitable depends upon the individual investor. As death is certain, the intelligent investor should carefully consider, for the advantage of his beneficiaries, his security holdings, and possibly as well, his State of residence. A saving of over \$50,000 in State inheritance taxes has been effected in a total estate of \$500,000 through careful analysis of holdings and beneficiaries. On the other hand, a total estate of \$197,000 has been known to shrink in value no less than \$115,000 because of lack of vision in this respect.

Personal property taxes.—Almost complete lack of uniformity is found in the action of the respective States in taxing securities as personal property in the sense that real estate is taxed. Securities are intangible property and many States do not tax intangibles, upon the plausible ground that the tangible property represented by the securities is subject to local taxation. Other States think differently and directly impose property taxes upon securities. In some States, notably Connecticut and Pennsylvania, non-exempt securities can be made exempt by the payment of a nominal tax.

Tax-free covenant securities.—Certain corporate bonds have been issued, under which the corporation agrees to pay all or part of the Federal normal income which may be due from the owner. The usual practice is for the company to promise to pay “not to exceed 2 per cent.” Such securities are exempt only in the sense that the Company pays the tax for the investor. The advantage, though small, is worthy of notice. The payment of a 4 per cent normal tax would reduce the net yield on a 6.53 per cent bond to 6.27 per cent. The assumption of the normal tax up to 2 per cent by the company would make the net yield 6.40 per cent instead of 6.27 per cent. Holders of these bonds are required to fill out special ownership certificates in cashing their coupons.

Stock transfer taxes.—Under legislation in effect at this writing, a Federal tax of 2 cents per \$100 of par value or 2 cents per share of no par value is imposed on all transfers of stock certificates. Payment of the tax is evidenced by affixed revenue stamps. New York State imposes a similar tax at the same rates. ⁷

Taxation suggestions to the investor.—Five suggestions are offered which show partially considerations an investor should weigh carefully in formulating his investment policy:

1. As dividends are exempt from the normal tax, a stock paying 6 per cent yields as much as a taxable bond returning 6.3 per cent.

2. As dividends are taxed at regular surtax rates when paid, companies retaining large earnings and permitting stockholders to profit through appreciation of holdings offer advantages, since such profit may be taxed at a lower rate as a capital gain.

3. As the company pays part of the tax, tax-free covenant bonds will yield net slightly more than taxable bonds without such covenant.

4. Discount bonds are preferable to par or premium bonds, even at the same yield, since the amount of the discount, when realized, is considered a capital gain and subject to lower rates than dividends.

5. Tax-exempt bonds give better yields than taxable bonds to investors with incomes exceeding \$50,000.

CHAPTER XVII

PROTECTION IN PURCHASING

Investment safeguards.—The safest rule to follow in making investments is to investigate before investing. Securities have varying merits and many which are offered deserve but scant consideration. Considerable skill is required to determine which is the better of two good investments, but anyone of ordinary intelligence should be able to distinguish between a good and a poor investment. Millions of dollars are lost yearly in the United States through the purchase of fraudulent securities, all of which might be saved if only a modicum of prudence were exercised.

In an endeavor to protect uninformed persons against loss in poor investments, many States have passed laws which aim to prevent fraudulent offerings. Such legislation has proved helpful but, in the last analysis, the best safeguard is the common sense of the individual. Experience has shown that even in States where legislation is most restrictive, poor securities have been easy to obtain. Private protection requiring the exercise of but ordinary care in investigating the merits of a security is infinitely more effective than public protection has thus far proved.

The chief safeguards.—The best protection that an investor may have has already been discussed in the opening chapter. The purpose of each commitment should be to derive income and not to profit through appreciation of

principal. Investors who purchase with the prime idea that an advance in market price will later afford them a substantial profit are more truly speculators. Moreover, the investor should not expect an abnormally high rate of return upon his commitment. Should the yield consist of a high premium for risk rather than true interest, the security really belongs in the speculative class and, as such, should not be bought as an investment.

The securities of any company which is still in the development stage are speculations and not investments. A company is in the development stage until it has been operating long enough to demonstrate sustained earning power. Such a period would ordinarily be at least five years. Earning power means ability to pay all operating and carrying charges and have remaining sufficient to pay a fair rate of return upon the capital invested with due regard for the risk involved in an enterprise of that nature. An industrial company should earn at least 10 per cent upon its invested capital.

The securities of any company which does not make public its financial statements are not desirable investments. The investor has no intelligent way of judging the true value. Most companies do publish these statements and investors should confine their commitments to such enterprises.

Securities should be purchased only through reputable houses. A responsible house feels a responsibility toward its clients and will not recommend the purchase of securities of doubtful standing. The reputation of the bond house should be investigated almost as carefully as the security itself, if not more so. If the investor is assured that he is dealing through a reliable house, he may be fairly sure that he is not buying poor securities.

Earmarks of fraud.—Various earmarks distinguish a

fraudulent offering. Not all of these occur in every case, and in rare cases legitimate issues may include certain of these features. But the presence of any of these earmarks should at once signal caution to the prospective purchaser and make him suspicious of the merits of the offering. The most common of these earmarks are argument by analogy, the limited offering, the promise of large profits, and the statement of opinions rather than facts.

Argument by analogy.—Argument by analogy is one of these earmarks. The comparison may be with other successful companies. “One hundred dollars originally invested in the Blank Company is worth \$50,000 to-day.” Such statements are often untrue. The General Electric Company has proved to be one of the most successful companies in the world, yet \$100 originally invested in that Company was worth considerably less than \$1,000 even after the Company has been in operation for thirty years. Moreover, there is no assurance that the new company will prove as successful as those mentioned. The investor should remember that the mortality rate of new enterprises is very high, but that no reference to this fact appears in security literature urging subscriptions.

The analogy may be on the basis of proximity of property to the property of other successful companies. “The property of this Company is located adjacent to the mines of the well-known Anaconda Company.” Even if such is the case, there is no certainty that the property of the new company will be equally productive. Were it so, the successful company would probably have previously acquired the adjoining property.

The limited offering.—Security offerings which bear unusual limitations should be carefully scrutinized. The limitation may be as to the number of privileged subscribers. “Only five reputable business men in your com-

munity are invited to join." This is an appeal to the vanity of the investor, as such a limitation must obviously be unsound from a practical viewpoint. The limitation may be as to the number of shares which may be purchased. "No subscriptions will be accepted for more than twenty shares." Legitimate companies are occasionally compelled to employ such restriction when a large demand exists for new offerings, but newly-formed companies scarcely have such a condition to face. The limitation may be as to time. "This offer expires on May first, when the subscription price will be raised." This practice is known as the "hurry, hurry game" and endeavors to encourage subscriptions by showing an apparent reward for prompt action. Limitations of this nature have little economic basis and are usually inserted to make the investor believe that he is receiving some special consideration either as to person, amount, time, or price.

The promise of large profits.—Most effective of all appeals is the promise of large profits. The point has been repeatedly emphasized that the size of the income derived from a commitment is in direct proportion to the degree of risk involved. Relatively large returns on an investment mean relatively large risks assumed. The average man too seldom realizes this truth. He knows only that the accumulation of capital by savings and interest on deposits is a long, slow process. He reads of large fortunes that are acquired suddenly. He realizes that the acquirement of such riches through the normal channel of saving is almost impossible. A security offering promises a return many times his modest savings bank interest. He is told that the security is "absolutely safe" and that the dividends will be exceedingly large. There seems to be no limit to the credulity of investors. Years ago a promoter received millions to invest on a promise of 10 per cent weekly return.

More recently, and in conservative New England, another promoter received unbelievably large sums upon a promise to pay 45 per cent semi-annually.

It may safely be stated that any security which gives a return of over 6 per cent per annum is too risky for the average investor. Even the best informed buyers cannot safely purchase securities yielding over 8 per cent. Savings banks and insurance companies are usually not permitted to buy securities which yield over $5\frac{1}{2}$ per cent. Any offering, therefore, which promises a return materially over 6 per cent annually is most likely to prove unsatisfactory. As in other lines of trade, the best securities are usually the cheapest in the end.

Opinions and facts.—A fourth earmark of the fraudulent appeal is the statement of opinions rather than facts. Not all circulars are as frank as the one which stated "This company is launching a proposition which, when actually proved by a trial, will completely revolutionize the fishing industry." More promising but less definite is the statement of another circular that the company "is in position to do a very large and remunerative business," and still another "there is every reason to believe that an investment with us will yield large returns." One fact about what has been done or is being done by the company is of greater significance than a score of opinions of future earnings. The security purchaser should be given facts upon which to base his own opinion.

Other earmarks of fraud.—In addition to the methods mentioned, others are employed which may briefly be stated. They include the ridiculing of income from savings banks, the denouncing of Wall Street, the sale of stock at a large discount, the sale of stock with a low par value such as a few cents a share, the payment of dividends before the company has reached adequate earning power, the promise of

absolute safety, the quoting of prominent men on the subject of speculation, the invitation to get in "on the ground floor," the solicitation of "one-call" salesmen, and a general lack of conservatism in the security offering in its various aspects.

Testing a doubtful offering.—A practicable method of testing the merits of a security is to have the company or the investment house making the offering fill out a questionnaire such as has been devised by the New Jersey Bankers' Association. The stated information is necessary as a basis for intelligent judgment. An unwillingness on the part of the company to give the information can be construed only as evidence of a possible fraudulent offering. The questionnaire mentioned is reproduced:

QUESTIONNAIRE.

Date
 Name of company.....
 Name of salesman.....
 Kind of stock offered.....
 Total issue of stock.....
 Stock given for property.....
 Stock given for good-will.....
 Stock given for patents.....
 Are you taking any Liberty bonds?.....
 If so, at what price?.....
 Amount of cash needed.....
 Par value of stock.....
 Market price of stock.....
 Has the stock a ready market?.....
 If so, where is it listed?.....
 Is the stock accepted by banks as collateral for loans?.....
 If so, what banks have accepted it to your knowledge?.....
 What are the present net earnings?.....
 Bank references
 Names of officers.....
 Former occupation

Bucket shops.—Certain classes of houses which deal in securities have gained the title of bucket shops. These houses differ from the legitimate houses in that they do not fully execute orders received to buy and sell. The orders are recorded, however, and the result is simply a gamble, with the house standing to profit if the trader acts contrary to the market trend and to lose if the trader has correctly foreseen the trend. Such operations, of course, are “bucketing” only when traders operate on margins and are required to leave the securities with the house. As margin-trading is pure speculation, only passing mention can be made of these houses. The best test of whether or not a house is “bucketing” its orders is an attempt to withdraw credit balances. The legitimate house will pay promptly; the “bucketing” house will use argument and persuasion to endeavor to retain the balance. The statement has been made that no one ever lost a dollar the day a bucket shop failed; the money was really lost the day it was given to the house.

Public protection.—Public protection against fraudulent security offerings and bucket shops is provided in various forms of legislation enacted under Federal and State laws. Under modern practice, railroad companies must secure the approval of the Interstate Commerce Commission before issuing new securities; this effectually prevents fraud in the railroad security field. Public utility companies usually must secure approval of the State utility commissions before issuing new securities; and such approval is granted only when proper assurance is given that the proceeds will be economically employed.

The commissions mentioned have no jurisdiction in the industrial field, however, and to prevent fraudulent offerings therein, special legislation, known as “Blue Sky” laws, have been put into effect by many of the States.

In addition to this legislation, another protection is found in the Federal laws against the use of the mails for fraudulent purposes. Unfortunately these laws have proved generally ineffectual, either because fraud could not be proved or because the promoters had fled before an adequate case could be prepared against them.

Blue Sky laws.—"Blue Sky" laws have been enacted, at the time of writing, in all States except Colorado, Connecticut, Delaware, Nevada, New York, New Jersey, and Maryland. In the three last named States, general laws against fraud are in force which apply to security offerings.

General laws against fraud such as are in effect in New York have not proved effective in checking the sale of fraudulent securities. Naturally, nothing can be done until the securities have been sold and then it is usually too late to recover the funds and often even to apprehend the sellers. Furthermore, very speculative securities may be sold which are legitimately issued but which should not be bought by the general public.

"Blue Sky" laws operate solely to prevent fraud in security offerings. As the term implies, the law endeavors to prevent the sale of securities which have intangible or doubtful value. To this end, but not in uniform fashion, the various State laws require sellers of securities to secure approval in all cases from a State securities commission. Approval is refused not alone to offerings which are plainly fraudulent but also to those which may be legitimate but which seem to involve a higher degree of risk than the average investor should assume.

The operation of the "Blue Sky" laws has not proved particularly successful. In the first place, the States have no jurisdiction over firms in other States which sell by mail to local residents. In the second place, approval by the State commission has not definitely prevented fraud.

Very recently, a promoter in a Central State, operating with the approval of several State commissions, sold \$9,500,000 in fraudulent securities to 74,000 individuals over a period of twelve months before his license was revoked.

But the chief objection to present "Blue Sky" laws is the restriction upon legitimate security selling. The information required for approval differs in the various States, but the following will serve to illustrate what is usually requested:

Certified copies of the articles of incorporation; the by-laws; the minutes of first meeting of stockholders and directors; the minutes of stockholders' and directors' meetings relative to the issue in question.

Statement describing fully the real estate, plant, equipment, patents, promotion, organization or other consideration, and the amount and kind of stock issued therefor.

Appraisal, duly verified, and made by competent and disinterested persons which covers all the properties securing the issue for which application is made.

Opinion of attorney who has examined abstracts of title to real estate.

Original written opinion, or a certified copy thereof, of the attorney who has examined and passed upon the record of title to properties leased.

Copy of all contracts, stocks and bonds or other securities which it is proposed to make, sell or negotiate to sell.

Sample copies of all literature or advertising matter used or to be used by the applicant or dealer in the sale of the securities in question.

Copy of any mortgage deed of trust.

Statement of amounts of all policies upon the physical property of the applicant, with names of insurance companies issuing said policies.

Copy of the contract between the applicant and the investment banker for the sale of the securities in question.

Copy of the certificate, executed by the proper officer of its parent State, showing that the applicant is authorized to transact business in such State.

Copy of the opinion of the attorney, certifying that all legal and statutory requirements of the State where applicant is organized have been met.

Opinion of an attorney concerning the validity of the issue in question.

Consent to be sued by service on the designated officer of the State.

Affidavits of the business experience of the officers.

Statement of securities, other than those designated on application blank, that have been awarded for consideration other than actual cash.

Statement of notes given applicant for securities, with details as to the drawers, dates, maturities, &c.

Copies of all letters patent held by applicant, together with the opinion of the attorney who has examined them.

The preparation of this material not only is expensive but, more important, requires much time. The loss of time may mean considerable money loss to the investment house if the market changes after he has agreed to pay a certain price for the securities and before he may be permitted to sell them. Many investment houses are therefore

opposed to these laws—not to the principle involved, but to the manner in which the laws have been framed.

To provide for uniform supervision, and to make the legislation effective against houses which operate by mail from lenient States, a Federal "Blue Sky" law is proposed. The enactment of such legislation, with the elimination of many of the unnecessary restrictions now found in certain of the State laws, would go far in protecting the general public from poor investments.

CHAPTER XVIII

PROTECTION IN HOLDING

Safeguards in holding securities.—Investors must employ safeguards in holding securities as well as in purchasing. A definite amount of risk is assumed in every security, and this degree of risk is constantly changing. To avoid the risk of large loss of principal, the investor should use the safeguard of diversification. To take advantage of changing degrees of risk, securities should be exchanged at opportune times. To prevent loss through theft or carelessness, securities should be kept in safe places. As the purpose of the preceding chapter was to show how loss might be avoided before purchasing, so the object of this chapter is to indicate how loss may be averted while holding.

The safeguard of diversification.—The intelligent investor diversifies his commitments. Andrew Carnegie, in his interesting "The Empire of Business," advised every young man to place all his eggs in one basket and to watch that basket. Good investment practice, however, will not follow such teaching. It is admittedly easier to keep informed on a single investment than on two or more. But few investors find it possible to devote any great amount of time to their holdings—the exigencies of life prevent such an occupation. Investment carries with it a certain element of risk under all conditions. It is, therefore, the part of discretion to distribute this risk as much as possible.

A consideration of the distribution of risk is simply a

study in probabilities. The insurance companies afford striking examples of the successful application of the principle of probabilities. Life insurance companies require that every applicant measure up to a certain standard before he is accepted as a risk. Despite this precaution, many policyholders die long before the age they would normally attain, called the "expectation of life." So certain is this to happen that the companies are able to determine with really astonishing accuracy just how many of their policyholders will die each year, and at what ages. By having a great number of policyholders, the risk is distributed, and the incidental burden to each survivor occasioned by each death before expectation, is greatly lessened.

The investment simile may be easily appreciated. Each investment should be accepted on its own merit with full confidence that it answers satisfactorily the usual tests. If that investment should eventually prove unsatisfactory, and it represents the entire capital of the owner, that individual will suffer seriously. No investment is perfectly safe, and securities of excellent promise have often proved disappointments. Let it be assumed that the commitment was not confined to a single investment, but included two or more good securities, mutually independent. It is just as likely as before that any individual investment will prove unsatisfactory, but extremely unlikely that more than one out of a few, or more than a few out of a great many, will prove to be failures.

In addition to protection of principal, diversification tends to keep the market value of the entire investment more constant. Prices are always fluctuating, even on the best investments. Certain conditions may depress one class and improve another. Seldom will the same events cause all classes of securities to fall at the same time, or to rise simultaneously. Fluctuation in security prices is not unlike

the action of sea waves—for every crest there is a trough. A decline in the market price of one investment will probably be offset by a rise in the price of another.

Methods of distribution.—The distribution of investments may be considered under two general heads—according to risk and according to investment convenience. The distribution according to risk may be accomplished by (1) limiting the proportion of capital invested in any one investment; (2) limiting the proportion of capital invested in any one kind of enterprise; and (3) distributing investments over more than one geographical area. Distribution according to convenience includes the selection of investments according to (1) maturity dates and (2) income dates.

Limitation of capital in any one investment.—The objection to investing the larger portion of investment capital in a single investment has been previously referred to. A great many possibilities exist which might readily transform an excellent investment into a poor speculation. At one time the Selden Automobile Company received a royalty on practically every automobile manufactured in the United States under the Selden patents, a most excellent source of revenue. But the Supreme Court failed to uphold the Selden patents and the Selden investment suffered greatly. The unexpected failure of the great Claflin stores in 1914 meant financial ruin for any investor who had confined his investment to Claflin securities. The investors who owned New Haven stock exclusively, and many there were in New England, realized large losses when the stock dropped from over 200 to about 20.

Limitation of capital in any one kind of enterprise.—The same general objection applies to investment in any one kind of enterprise. Normally speaking, the general conditions which help or injure any one investment have

the same effect on all in the same category. Increased expenses without a corresponding increase in revenue operate to make all public utility investments weak at the same time. Industrial securities are good when the country is prosperous and poor when it is not. An increased demand for copper causes all copper securities to rise, just as a falling demand causes a decline. Persons familiar with conditions in any industry—Troy with its collar shops, Pittsburgh with its steel plants, Detroit with its automobiles, Akron with its rubber factories—will all testify that when "work is slack" in one shop, it is usually so in all shops in the same industry.

Experience has shown, however, that all classes are not equally affected at the same time. The steel industry may be prosperous while the textile mills are marking time, as was exemplified in 1923. A fair diversification among several kinds of enterprises is far preferable to a proportionately large commitment in a single class.

Geographical distribution.—Geographical distribution of investments may be either national or international. Heretofore in the United States such distribution comprehended a division of investments among the various sections of the nation. A certain portion might be invested in New England, a second portion among the North Atlantic States, a third in the Mid-Atlantic States, a fourth in the South, a fifth in the Central States, and a sixth in the Pacific section. The underlying theory of this mode of investing is that all parts of the country are not equally affected by existing conditions. The Pacific section may be booming at a time when the East is seriously affected by an industrial depression. The Granger States may enjoy great prosperity from a bumper wheat crop at a time when the South may have its poorest cotton yield. And the agricultural States may suffer as a whole when the industrial States are very

busy. Other things being equal, it is regarded as conservative practice to distribute investments in different sections, as usually a depression in one division will not be felt in all others.

The distribution referred to in the previous paragraph was purely national in character. International distribution is a broader application of the same principle and the popularity of this practice in England is evidence of its efficiency. The fact that America is now entering the field of international investment makes the discussion of more than ordinary interest. The advantages of international geographical distribution were first pointed out by Henry Lowenfeld in his most interesting book "Investment an Exact Science." Mr. Lowenfeld acts upon two postulates: first, that the price paid for loans of capital will vary according to the wealth and credit of the different countries of the world; and second, that no circumstances can cause all the stocks of a geographical distribution to show a simultaneous depreciation below cost price. The application of this theory to a typical all-British list and a typical geographically distributed one showed (1) that the geographically distributed list produced 20 per cent more income; (2) that the all-British one increased in value about \$10,000 during the first five years, but ended in a loss of about \$500; and (3) that the geographically distributed list gradually appreciated and maintained its increase, ending with a gain of about \$7,500. A statistical demonstration is shown on the following page.¹

An international distribution of this character would be impracticable in this country at the present time owing to the very limited number of foreign securities traded in our markets. As American investments abroad are increased, this method of distribution will become more possible.

¹From "All About Investment," Henry Lowenfeld.

<i>All British Stocks</i>	<i>Industries Covered</i>	<i>Highest Price</i>		<i>Difference Per Cent</i>	
		1896	1908	Rise	Fall
Nottingham, 3%.....	Municipality.....	122 $\frac{3}{4}$	91	..	25.8
L. & N. W. Ry. Debs.....	Railway.....	124 $\frac{7}{8}$	91	..	27
E. London Water, 3%.....	Water Works.....	109	90	..	17.4
Liverpool United Gas Debs.....	Gas.....	138	108	..	21
S. London Elec. Supply.....	Electric.....	6	3 $\frac{1}{8}$	..	48
Nat. Provincial Bank.....	Bank.....	56	47	..	16
Mercantile Trust Pref.....	Trust.....	117	111	..	5.1
Royal Exchange Assoc.....	Insurance.....	378	210	..	44.4
Millwall Docks.....	Docks.....	66	26	..	60.6
Grand Junction Canal Ord.....	Canal.....	155	98	..	36.8
Nat. Telephone 1st Pref.....	Telephone.....	19	13	..	31.5
Provincial Trams Ord.....	Trams.....	6 $\frac{5}{8}$	5 $\frac{1}{4}$	..	20.8
London General Omnibus.....	Omnibus.....	108	47	..	76.4
Barclay, Perkins.....	Brewery.....	12	5 $\frac{1}{4}$	..	56.2
Vickers, S. & Maxim Pref.....	Armaments.....	130	108	..	17
Gordon Hotel Pref.....	Hotels.....	16 $\frac{3}{4}$	8	..	52.2
Crosley & Sons Pref.....	Engineers.....	7 $\frac{1}{8}$	5 $\frac{1}{4}$	..	26.3
Kynochs Ord.....	Explosives.....	23	13	..	43.4
J. & P. Coats, 6% Pref.....	Sewing Thread.....	21	16 $\frac{3}{4}$	..	20.2
Waring & Gillow Pref.....	Furniture.....	5 $\frac{7}{8}$	4 $\frac{1}{8}$	..	29.7
Newnes, Geo.....	Publishers.....	1 $\frac{1}{4}$	1 $\frac{1}{8}$	..	35
Tower Tea Pref.....	Tea.....	5 $\frac{5}{8}$	3 $\frac{3}{4}$	..	33.3
Harrods Stores.....	Stores.....	7 $\frac{1}{4}$	4 $\frac{1}{8}$	..	32.7
Dickinson & Co., 1st Pref.....	Paper.....	126 $\frac{1}{4}$	108	..	14.4
Causton & Son.....	Printers.....	14 $\frac{1}{8}$	8 $\frac{1}{4}$	..	41.5
Aerated Bread.....	Caterers.....	10 $\frac{1}{8}$	6 $\frac{1}{8}$	..	35.8
Apollinaris Pref.....	Mineral Water.....	11 $\frac{5}{8}$	7 $\frac{3}{4}$	..	33.3
Pears' Soap Pref.....	Soap.....	14 $\frac{1}{8}$	13 $\frac{1}{4}$	..	10.9
Price's Candles.....	Candles.....	43	35 $\frac{1}{2}$	..	17
Lilley & Skinner Pref.....	Boots.....	5 $\frac{1}{4}$	5	..	13
Belgravia Dairy.....	Dairy.....	1 $\frac{1}{8}$	1 $\frac{1}{8}$	..	37
Bryant & May Pref.....	Matches.....	20 $\frac{1}{4}$	13	..	35
Spratt's Patent Pref.....	Dog Cake M'n'f.....	6	5 $\frac{1}{4}$	..	12.5

<i>Government Stocks</i>		<i>Highest Price</i>		<i>Difference Per Cent</i>	
<i>Arranged According to the Size of the Indebtedness</i>	<i>Geographical Situation</i>	1896	1908	Rise	Fall
Algeria, 3%.....	Africa.....	470	447.50	..	4.7
Paraguay, 3%.....	America, South.....	16 $\frac{1}{4}$	52	220	..
Chili, 4 $\frac{1}{2}$ %.....	America, South.....	87 $\frac{1}{2}$	93	6.3	..
Tunis, 3%.....	Africa.....	503.50	468	..	7
Bulgaria, 5%.....	Europe, South.....	90	101	12.2	..
Denmark, 3 $\frac{1}{2}$ %.....	Europe, North.....	100	95	..	5
Servia, 4%.....	Europe, South.....	66 $\frac{1}{2}$	84	26.3	..
Norway, 3%.....	Europe, North.....	103 $\frac{1}{2}$	86	..	16.9
Sweden, 3 $\frac{1}{2}$ %.....	Europe, North.....	105 $\frac{1}{2}$	99	..	6.5
Greece, 5% Funding.....	Europe, South.....	34	49 $\frac{1}{2}$	45.5	..
Mexico, 5%.....	America, Central.....	101	104	2.9	..
Switzerland, 3 $\frac{1}{2}$ %.....	Europe, North.....	102.70	99	..	3.6
Cape Colony, 4%.....	Africa.....	110 $\frac{1}{2}$	102	..	7.6
Roumania, 4%.....	Europe, South.....	86	90 $\frac{1}{2}$	5.2	..
Brazil, 4 $\frac{1}{2}$ %.....	America, South.....	72 $\frac{1}{4}$	90	24.5	..
Canada, 3 $\frac{1}{2}$ %.....	British held.....	111	102	..	8.1
Argentina, 4 $\frac{1}{2}$ %.....	America, South.....	64	98	53	..
Egypt, 3 $\frac{1}{2}$ % Insd.....	Africa.....	104 $\frac{1}{2}$	95	..	9.09
Holland, 2 $\frac{1}{2}$ %.....	Europe, North.....	93 $\frac{3}{8}$	77 $\frac{3}{8}$	..	17.5
Japan, 5%.....	Asia.....	105 $\frac{3}{8}$	101 $\frac{1}{2}$	..	3.9
China, 5%.....	Asia.....	102 $\frac{1}{4}$	106	3.6	..
Turkey, 4%.....	Internat. held.....	104 $\frac{1}{4}$	102	..	2.6
Belgium, 3%.....	Europe, North.....	102	101.25	..	0.7
Portugal, 3%.....	Europe, South.....	64 $\frac{1}{2}$	66	2.3	..
German Empire, 3%.....	Europe, North.....	100	84 $\frac{1}{2}$	..	15.5
Hungary, 4% Crown.....	Europe, South.....	99.70	96	..	3.7
Spain, 4% Sealed Bas. Rentes.....	Europe, South.....	64 $\frac{3}{8}$	95 $\frac{3}{4}$	48.1	..
Austria, 4% Crown Rts.....	Europe, Central.....	101.55	98	..	3.5
United States, 4%.....	America, North.....	131 $\frac{1}{4}$	124	..	5.5
Italy, 3 $\frac{3}{4}$ %.....	Europe, South.....	92	104 $\frac{1}{2}$	13.5	..
Russia, 4%.....	Europe, North.....	104 $\frac{1}{4}$	70 $\frac{1}{2}$	..	24.1
Great Britain, 2 $\frac{1}{2}$ %.....	British.....	113 $\frac{3}{8}$	88	..	22.7
France, 3%.....	Europe, South.....	103 $\frac{1}{4}$	98	..	5.08

Distribution according to maturity.—Regardless of all other circumstances, the usual value of a security at maturity date is the par or face value. Exceptions will arise when the payment is in default or when redemption is not at par. If reinvestment opportunities were at all times equal, the maturity dates would be of little interest. But it is well known that interest rates fluctuate with changing business conditions and that when interest rates are high, bond prices are low, and vice versa. It is of course impossible to foretell what business conditions and investment opportunities will be at the end of ten years, or at any definite period in the future. The careful investor will therefore vary his maturity dates so that no great portion of his investment will fall due at any single time. Maturity usually means reinvestment, and while the opportunity may be favorable at one time, it is just as likely to be unfavorable, and the disadvantageous element should be avoided as much as possible. An example is shown in the case of the individual who had maturities in the period from 1902 to 1905. That person was obliged to reinvest in securities yielding less than 4 per cent. If some of those maturities were between 1916 and 1920, he would receive a yield of about 6 per cent on his reinvestment.

Distribution according to income dates.—A distribution according to income dates will be beneficial to the investor whose personal expenditures are dependent to any extent upon the income from his investments. The dates of the payment of interest and dividends are usually fixed, and a comparatively small investment may be readily distributed so that the income may be received in equal parts on the first of every quarter or even on the first of each month of the year. Interest payments are usually semi-annual, and are payable either J & J (January 1 and July 1); F & A (February 1 and August 1); M & S (March

1 and September 1); A & O (April 1 and October 1); M & N (May 1 and November 1); or J & D (July 1 and December 1). Dividend payments are usually quarterly, but on no standard dates. The convenience of this arrangement to the investor is apparent as he is actually receiving a monthly rather than a semi-annual income.

Suggested application of distribution theories.—

The great number of investment securities available in this country makes very easy a happy combination of all the desirable methods of distribution explained above, with the exception of the international. The following suggested list was compiled in three minutes from the bond quotations of the *Commercial and Financial Chronicle* as of June 7, 1919. It assumes the nominal investment of \$6,000, divided equally in the following six securities:

Name	Class	Geographical Division	Maturity	Interest Dates
Edison Electric Illuminating Company, First Consolidated 5's	Public Utility	New York	1995	Jan. 1 and July 1
Utah Power & Light Co. First 5's	Public Utility	Utah	1944	Feb. 1 and Aug. 1
Pennsylvania R. R. Company First General 4's	Railroad	Eastern & Central	1923	Mar. 1 and Sept. 1
Liberty Loan, Fourth 4¼'s..	Government	National	1938	Apr. 15 and Oct. 15
United States Steel Corp., Sinking Fund 5's	Industrial	Various	1963	May 1 and Nov. 1
Southern Pacific R. R. Company General 4's....	Railroad	Southwestern	1949	June 1 and Dec. 1

The income derived from the total investment would be received as follows:

Jan. 1...	Edison Elec.....	\$25.00
Feb. 1...	Utah Power.....	25.00
Mar. 1...	Penn. R. R.....	20.00

Apr. 15....	Liberty Loan	\$21.25
May 1....	U. S. Steel.....	25.00
June 1....	Southern Pacific.....	20.00
July 1....	Edison Electric.....	25.00
Aug. 1....	Utah Power.....	25.00
Sept. 1....	Penn. R. R.....	20.00
Oct. 15....	Liberty Loan.....	21.25
Nov. 1....	U. S. Steel.....	25.00
Dec. 1....	Southern Pacific.....	20.00

General principles of distribution.—The investment world is indebted to a most able English authority¹ for the following general principles underlying a scientific distribution of investment:

1. The investments should not all be confined to one market.
2. The investments should be distributed among different countries.
3. They should belong to different classes.
4. The total should be fairly equally divided among the different classes.
5. The number of classes should vary in proportion to the amount to be invested and even a small investment should include at least four or five classes.
6. Each individual investment should offer good security in itself.
7. The fluctuations in the market price of the securities should have remained approximately within the same limits of width of variation.

"If all of these conditions are fulfilled, while no guarantee can be given for the future of any particular security, it seems fairly certain that if some prove bad bargains, others

¹ Sir Edward Law, quoted by J. Beattie Crozier in "The First Principles of Investment."

will increase in value, and the law of averages will assure a far more reliable collective result than any likely to be attained by the most careful selection of securities, based solely on apparent respective individual worth."

Distribution according to the investor's position.—

All investors do not occupy the same relative position. A general classification would separate them into three divisions: those who depend for their living entirely upon the income derived from their investments, those who are partly dependent, and those whose living prerequisites are independent of such income. As income varies almost directly with risk, it does not seem equitable that those who are independent of their investment income usually receive a greater income through their ability to assume a larger risk. Those who must depend upon the income exclusively can afford to assume very little risk. Their investments must therefore be confined to the very best and consequently low-yielding bonds. Distribution must be among the more conservative issues. Those who are partly dependent can afford to mix their investments, buying both the safest securities and those in the next class and thus receiving a better average yield. Those who live independent of their income can realize a maximum from investment opportunities. Ultra-safe bonds appeal almost entirely to those who must sacrifice income for safety, and purchases may be made in the second and third classes which yield the higher returns. Such an investor should remember that the average business doesn't get into trouble after it is once on its feet. Many do, undoubtedly, and considerable publicity is given to the fact. But anyone who has traveled to any extent through the commercial sections of the country knows that for every failure there are hundreds of successful enterprises quietly and unobtrusively conducting a profitable business. The securities of such companies are seldom

termed "gilt-edge" and belong in the second and third class rather than the first, but nevertheless they are rarely in default and the risk assumed by the purchaser is not so great as may at first appear. A thoughtful diversification among these securities along the suggested lines will give the investor a very satisfactory return.

Safeguarding by exchanging.—At different times it becomes advantageous for an investor to sell certain securities and reinvest the funds in other offerings. Sometimes it is even necessary to take such action to avoid positive loss. More often, however, the investor simply improves his position either by securing greater income without increase in risk, or obtains greater security of principal without loss of income. The investor who desires to take advantage of such opportunities must keep in close touch with the internal affairs of his companies and with external conditions in business generally. He must always have a reasonably approximate idea of current market prices on his securities. He must appreciate changing economic conditions, especially interest rates and commodity price changes. He must analyze carefully the published financial statements of his companies to detect early unfavorable tendencies. In short, his ability profitably to exchange will depend upon his vigilance.

First of all, *he should keep in touch with current quotations*. Certain variations are to be expected, but when his security is moving out of line with the market, he should at once take notice. If it is lower, he should assure himself that no danger is ahead, or he should sell at once. Practically all corporate receiverships are preceded by a decline in security prices before there is any general knowledge of the impending trouble. Often the first suspicion comes from such declining security prices. If the investor is holding stock, the threatened danger may not be so serious as a receivership, but may be a discontinuance of dividend

payments. Published notice of default in interest or passing of dividends rarely comes as a surprise to the vigilant investor. If the price movement is upwards, he must decide whether the advance is or is not temporary, and if so, naturally he should sell at once. On March 20, 1923, Northern Pacific Common, paying 7 per cent, was selling at $78\frac{1}{2}$ to yield almost 9 per cent, whereas Pennsylvania Common, paying 4 per cent, was selling at $37\frac{1}{2}$ to yield slightly over 5 per cent. On the same day, New York Central Common was selling to yield over 6 per cent. As these three stocks are generally regarded as being in about the same class, the differences in yield were significant. The inference was that something unfavorable was ahead for Northern Pacific and something favorable for Pennsylvania. Such proved the case as soon thereafter the dividend rate on Northern Pacific was reduced to 5 per cent and on Pennsylvania increased to 6 per cent. Callable bonds selling above their redemption price can ordinarily be exchanged to advantage.

Second, *he should study carefully the published financial reports of his companies.* If gross sales are declining, if operating ratio is increasing, if fixed charges are requiring an increasing proportion of available income, if dividends are being paid out of accumulated surplus rather than current income, if depreciation is not properly handled, if reserves being set up are adequate and neither too large nor too small, if the ratio of current assets to current liabilities is declining, if inventory accounts are out of proportion, if intangible assets are being increased, if the bonded indebtedness is growing too large for the capitalization, the investor should be aware of the developments and thus be in a position to sell before conditions become worse. Numerous examples of the factors mentioned appear throughout the book.

Thirdly, *he should observe changes in management of his companies.* Securities of the New York, Chicago, and St. Louis railway were greatly strengthened by the acquisition of control by the Van Sweringen interests. On the other hand, the Denver and Rio Grande securities suffered enormously after the Gould interests secured control.

Fourthly, *he must observe external factors which may directly affect his companies.* Federal tariff policy is an illustration. Low tariff would probably help International Mercantile Marine, Woolworth, and International Harvester, and concurrently injure American Woolen, General Electric, and United States Steel. Radical legislation may adversely affect all railroad securities.

Fifthly, *he should observe external factors which affect all security values.* Changing economic conditions cause the general level of security values to rise and fall. So important is this phase that an entire chapter is devoted to it in this book.

As a result of such careful watching, the investor gains advantages in addition to those mentioned. *He may gain larger income without incurring greater risk.* In 1923, a large life insurance company gained \$1,000,000 in annual income through the advantageous exchange of less than \$50,000,000 in securities. Or he may gain greater security without loss of income. When Liberty bonds were selling to yield over 5 per cent in 1920, it was advantageous to sell corporate bonds of the same yield and reinvest in the Government issues.

He may be able to take advantage of a relatively unexpected appreciation in the values of certain of his securities. When Bethlehem Steel 7 per cent Preferred sold at 186 in 1916, it was obviously selling far beyond warrant and the watchful holder exchanged. In other words, when the

price of a security seems to have fully discounted all future favorable prospects, it is advantageous to exchange. In 1924, Erie-Pennsylvania Coal collateral trust 4's of 1951 sold at 93½ to yield 4.40 per cent, or lower than Atchison General 4's and Union Pacific First 4's. The high price was due to sinking fund operations. The vigilant investor exchanged for a higher yield bond of equal security.

Profit opportunities on convertible securities may be taken advantage of. In 1923, the conversion privilege on the Atchison, Topeka and Santa Fe Convertible 4's of 1960 expired. While the conversion option remained in effect, the bonds naturally sold at least as high as the common stock, into which the bonds were convertible par for par. Just before the expiration of the conversion privilege, the stock was selling at 98, and the bonds at the same price, although a similar issue of non-convertible Atchison 4's was quoted about 20 points lower. Although it was obvious that the bonds would decline about \$200 in price as soon as the conversion privilege ended, yet the holders of nearly \$500,000 worth of these bonds neglected this profit opportunity. Even had they desired to retain the investment, they might have sold previously and then repurchased a few days later at four-fifths of the sales price.

Safekeeping of securities.—Securities should be carefully guarded. The possibility of loss through theft or destruction is too great to be treated carelessly. Most people live close to a safe-deposit company, or a bank with safe-deposit boxes. The annual rental is small and the protection is well worth the cost to the average investor. If a safe-deposit box is not used, the securities should be kept in a locked metallic box. A list should be prepared in triplicate, showing the number of each security, the amount, the name of the corporation, the date of maturity, the rate

of interest, and the dates of interest payment. One copy should be kept with the securities, a second elsewhere in the house, and a third, outside the house. Bonds kept at home should be registered as previously explained. If a safe-deposit box is used, the coupon form is preferable because of its superior marketability. Stock certificates should of course be transferred to the name of the owner at the earliest possible moment. In no case should any writing or other marks be made on the securities except to make proper endorsement. If a security is lost, notice with full description should be immediately sent to the corporation and also to the house through which it was purchased. The loss of a bearer instrument is serious as the finder may readily sell to an innocent purchaser who will receive good title. The loser may hold the finder responsible if he can locate him. The same principle applies to a stock certificate or registered bond endorsed in blank. Transfer of a lost unendorsed stock certificate or registered bond can arise only through forgery. Bond coupons should not be detached before they become due as purchasers object to receiving a bond with loose coupons. Coupons are plainly dated on the face and on the reverse the consecutive number appears in large figures.

Distinction between safe deposit and safe keeping.
—Banking institutions are permitted to receive securities for safe keeping and also to rent receptacles for safe deposit. The distinction between the two functions is important. When securities are deposited in a safe deposit box, the duty of the renting corporation is merely to keep the contents intact and to permit access only to properly authorized persons. The entire matter of detail in connection with the securities is entirely in the hands of the investor. The safekeeping of securities is quite different. The bank gives a special receipt under the terms of which the bank is

responsible at all times for the actual securities. The securities are not necessarily placed in separate receptacles. The bank therefore has direct access constantly. By reason of this direct accessibility the bank is in a position to act as agent for the owner in many capacities, the most important of which are:

1. Collection of interest, dividends, and principal.
2. Purchase and sale of securities.
3. Rendition of periodical statement of securities held.
4. Provision of necessary information and forms for reporting security income for taxation purposes.
5. Rendition of special reports on any securities held.
6. Information on called bonds, stock rights, appointment of protective committees, and opportunities for sale of bonds to sinking funds.

Service of this nature is very helpful, especially if the investment securities amount to an appreciable total. The charge for this service depends upon the incidental detail and is usually in direct proportion to the total value of the securities.

The advantage to the investor of safekeeping over the safe deposit method is that in addition to being relieved of the detail, he has the securities always at his disposal. In case of sickness or absence from home, the securities are available for the use of the owner, either through letter, telegraph, or cable instructions to deliver, sell, or pledge as collateral for a loan. The offsetting disadvantage is that care is necessary in the choice of the bank. The institution to which securities are entrusted for safekeeping should be of unquestioned financial responsibility.

CHAPTER XIX

PROTECTION IN REORGANIZATION

The investor's problem.—Securities of failing company always present serious problem to holders. Vigilance in watching market trends helps materially in the prevention of large loss as has been illustrated in the preceding chapter. But drastic changes in corporate prosperity may occur with surprising celerity. Stock of the Goodyear Tire and Rubber Company was highly regarded in 1919 selling as high as 430. Yet in 1920 the same security sold at 17. A change so sweeping in such a short period is unusual, but is indicative of the suddenness with which security values may change. Not even a maximum of caution will always prevent loss, and even conservative investors may find themselves holding the depreciated securities of failing companies. The problem presented is the determination of whether to sell out immediately and thereby accept large loss, or continue to hold in anticipation of eventually regaining part of the loss.

Causes of business failures.—The causes of business failures are numerous and may be variously classified. Seldom is a single cause the only reason in a given case. The fault may be in production methods, in marketing policies, in accounting procedure, in financial plan, or in general management. Production may be inefficient because of poor supervision and planning or inferior equipment. Accounting procedure may be harmful if fraud is possible or if

adequate reserves are not established. The financial plan may have brought an excessive burden of fixed charges, or unwise distribution of large dividends, or insufficient working capital. The general management may have been lax not only with regard to the specified internal policies but with respect to external developments. Neglect to provide facilities to meet customers' demand, large purchases on a declining market, and poor location of plant, are but some of the causes of business failure attributable chiefly to inefficient management.

Work of protective committees.—Default in the payment of any fixed charge to a security holder usually brings the prompt formation of a protective committee. The passing of contingent charges, such as dividends, of course does not warrant this action. Committees may even be formed in advance of definite default. The placing of a large judgment against Denver & Rio Grande recently caused the formation of protective committees to act for the bondholders although no default had then occurred. A separate committee is usually formed for each security inasmuch as each issue has rights with respect to the others.

Three classes of committees are generally formed. Bondholders' committees customarily comprise members of the investment banking house which floated the issue, acting in its protective capacity. Stockholders' committees comprise large stockholders, often directors of the company. Creditors' committees are composed of commercial bankers acting to protect either their own loans or accounts of depositors.

The committees are formed voluntarily and privately. The security holders are invited to join and are requested to deposit their securities with a selected bank as trustee for the committee. The deposit of securities is necessary as evidence that the committee is authorized to represent

the security holders. The committee rarely comes into actual possession of the security, and, in many cases, investors are permitted to withdraw the securities deposited. The investor is never obliged to join in the action but usually finds it more profitable to do so. If security holders were not able to act in concert, they would have to protect their interests individually at great cost and inconvenience.

The legal power of these committees is limited. They simply have power to negotiate for the security holders. They endeavor to agree upon a plan of reorganization but have no power to put it into effect without formal acceptance by the security holders. Upon presentation of the plan, security holders have the right to withdraw their deposited securities if they do not approve the plan.

Work of the receiver.—A company in default of its obligations is usually placed into receivership. A receiver, appointed by the courts, is put in complete charge of the property to conserve the assets, pending a decision as to the adjustment of the claims of the creditors. His duties are, first, to keep the business in operation, and, second, to determine its future. If the cause of the failure is not fundamental and can be remedied, the receiver will endeavor to correct the trouble under a reorganization plan and give the enterprise a new start. On the other hand, if the business cannot be put on a profitable basis, the receiver will close it out, dispose of the assets and distribute the proceeds, less the cost of receivership, among the creditors according to priority of claim.

Upon taking charge, the receiver seldom finds any available cash on hand. To enable him to continue operations, he gets permission from the court to sell receiver's certificates which are regarded as an expense of the receivership and as such have first claim upon the assets of the company.

The receiver will negotiate with the various protective

committees in connection with reorganization plans and will lend his own approval when such plan is referred to the court for official approval. He continues in charge until reorganization or dissolution is completed.

Priority of claims.—Not all creditors of an enterprise have equal claim against the assets. Taxes constitute the senior claim. Expenses of the receiver, including certificates, come next. Then follow claims for material and wages for services furnished just before insolvency. Mortgage bonds in the order of lien come next. Debenture bonds and unsecured accounts follow. Preferred stock, where preference as to assets is given, ranks ahead of other stocks. Claims secured in any definite way have a priority of claim in accordance with the nature of the security.

Objects of reorganization.—The reorganization of any company generally results in an immediate loss to a majority of the security holders. Action more or less drastic in accordance with the requirements of the situation is necessary to re-establish the company on a secure foundation. The objects of a reorganization usually include (1) the payment or funding of current indebtedness, (2) the securing of working capital, (3) a reduction in fixed charges, and (4) a more simple form of capitalization. The loss to the security-holder in the accomplishment of these objects may arise through (1) payment of an assessment, (2) consent to the issuance of new securities with prior liens, or (3) acceptance of a weaker security such as stock for bonds.

The security-holder should not seriously object to paying an assessment provided it is a reasonable amount. A small sum contributed by many investors will often provide a total large enough to carry the corporation through its difficulty. Nor may objection be made as a rule to the placing of a prior lien upon the property to enable funds to

be secured from the sale of new securities. Certainly new investors cannot be induced to commit their funds into an enterprise in financial difficulty unless they receive ample security. The reduction of fixed charges is one of the main objects of the average reorganization, and fixed charges can only be reduced in two ways, either by paying off the indebtedness, which is generally impracticable, or by arbitrarily changing the nature of the indebtedness to make at least part of it bear contingent charges.

The reorganization plan.—The reorganization plan of the Missouri, Kansas and Texas railroad in 1922 illustrates the way in which the various objectives are accomplished. Non-productive properties are not included in the reorganization. Strongly-secured bondholders are not disturbed in any way. Junior bondholders are asked to exchange for weaker securities including part in new stock. Stockholders are required to pay an assessment if they desire to retain their interest in the company.

The properties not included in the Katy organization comprised among others the Texas and Oklahoma and the Houston and Brazos Valley. Undisturbed securities included all the equipment notes and the Texas Central First Mortgage bonds due in 1923.

The other bondholders were asked to accept various concessions. Holders of the First 4's of 1990 received \$500 par in Prior Lien 5's, Series A and \$500 par in Prior Lien 4's, Series B. Holders of the Second 4's of 1990 received \$1,192.50 in Adjustment 5's and \$64.16 in Preferred stock. Holders of the First and Refunding 4's of 2004 received \$500 in Prior Lien 5's, \$250 in Prior Lien 4's and \$503.33 in Adjustment 5's. Holders of the General 4½'s of 1936 received \$250 in Prior Lien 5's, \$250 in Prior Lien 4's, \$73.13 in Adjustment 5's, and \$719.37 in Preferred stock. It is interesting to note, because of a prior lien on a valuable

part of the system, that the First 5's of a subsidiary road, the Missouri, Kansas, and Oklahoma, fared better than the first mortgage bondholders of the parent company in that they received a full \$1,000 in the new senior bond issue, the Prior Lien 5's. Equally fortunate were holders of the Dallas and Waco First 5's of 1940. Even more fortunate were the holders of the Wichita Falls and Northwestern First 5's of 1939 who received \$1,200 in the new Prior Lien 5's. The holders of the First 5's of 1942 of the Missouri, Kansas and Eastern received \$750 in the Prior Lien 5's and \$537.50 in Adjustment 5's. Generally speaking, the holders of the bonds of the subsidiary companies fared better than did holders of the bonds of the parent company owing to the fact that the bonds of the parent company have a claim subordinate to that of the bonds of the subsidiary companies.

The stockholders, having the weakest claim against the assets, were obliged to suffer to the greatest extent. Holders of Preferred stock had to pay an assessment of \$20 per share and received therefore \$14 in Prior Lien 6's, \$6 in adjustment 5's and one new share of common stock. Holders of common stock had to pay an assessment of \$25 per share and received \$17.50 in Prior Lien 6's and \$7.50 in Adjustment 5's and one new share of common stock.

Results of the reorganization.—The Katy reorganization referred to above, accomplished the major objectives. Fixed charges including sinking fund payments were reduced from \$7,429,000 to \$4,917,000 yearly. The fixed interest-bearing debt was cut from \$146,543,142 to \$100,320,913. Eighteen bond issues were replaced with but two, the Prior Lien and the Adjustment. Moreover the new Prior Lien is substantially a first mortgage on the entire system, a condition true of very few existing railroad mortgages. Assessments received from the stockholders pro-

vided \$18,420,000 in new cash which was sufficient to pay off the receiver's certificate and bank loans, the deferred interest payments, the maturities on the equipments for the next year, and over \$10,000,000 in free working capital.

An excellent illustration of a successful industrial reorganization is afforded in Westinghouse Electric which went into receivership in 1907. Between reorganization in 1908 and 1924, the company wrote off \$21,000,000 in securities, \$2,000,000 in patents, increased surplus \$40,000,000 and put the stock on an 8 per cent basis.

Effecting the reorganization.—If the reorganization plan is approved by a large majority of the security holders, it is approved by the court and the property is ordered sold at public auction, at a minimum price, known as the "upset price." At the auction, the property is bid in by the protective committees. The reorganized company takes possession and the old company passes out of existence. The few security holders who refused to join in the reorganization have been "frozen out" as they now simply possess securities of a company no longer in business nor in possession of assets. They are simply entitled to their proportionate share of the proceeds of the sale. But as the property was paid for in securities of the old company, the claim is of little value.

The new company may or may not continue under a title similar to the old. Railroad companies usually keep the same title. The Erie was still the Erie after three reorganizations. The reorganized Chicago, Rock Island, and Pacific Railroad Company became the Chicago, Rock Island, and Pacific Railway Company and thereby permitted unscrupulous persons to profit by selling the defaulted bonds of the old company to credulous buyers who thought they were purchasing the bonds of the present company. Unlike railroad companies, reorganized industrial companies as-

sume entirely different titles. Few people realize that the Corn Products Refining Company is the result of four reorganizations.

The investor's problem in reorganizations.—The investor who owns securities in failing companies must decide whether he will stay through the reorganization or sell his holdings for what they will bring under the circumstances. He should regard the matter from two viewpoints. First, will a reorganization remove the specific causes of failure and enable the enterprise to be conducted at a profit? Second, if the indications are that the reorganization will be successful, will the earnings be large enough within a reasonable time to bring a satisfactory income on the investment?

In deciding the first question, the investor should carefully consider the personnel of the reorganization managers. If the committee seeking the deposit of securities is composed of large owners in the company, or has been formed by a banking house which was interested in marketing the securities, the investor may feel secure in depositing his bonds or stock. On the other hand, if the committee consists of individuals who are acting for their personal profit, the investor should not place his securities in their care.

The answer to whether or not a reorganization will be successful depends largely upon the cause of the original failure. A summary of the chief causes of failure and the methods of obviating a repetition follows.¹

BUSINESS CAUSES

Causes

Methods of obviating

- | | |
|---|--|
| 1. Improper organization,
with division of responsibility. | 1. Scientific organization; discarding non-productive units. |
|---|--|

¹ From "Protecting Securities in Failing Companies," C. W. Gerstenberg.

2. Neglect of details of management.

3. Ignorance of changing business conditions.

4. Fraud.

2. New management.

3. Relocation of plant; abandonment of unnecessary plants; changing product.

4. New management; recovering of proceeds of fraud.

FINANCIAL CAUSES

5. Over-capitalization.

6. Unsound financial plan, usually requiring payment of heavy annual fixed charges, heavy charges on a large number of smaller issues of securities, high cost of renewing floating debt or excessive rentals on leased properties.

7. Inadequate working capital.

8. Neglect of maintenance.

9. Competition.

10. Change in outside business conditions.

5. Drastic cutting down of capitalization.

6. Cutting down capitalization; changing bonds into stock; reducing the number of classes of outstanding securities; funding floating debt; discontinuance or change of issues.

7. Heavy assessments on security holders; sale of new securities through proper banking channels; extension of bank credit; funding floating debt; reorganization of credit and collection department.

8. Provision for immediate rejuvenation of plant and assurance of proper accounting system to insure future maintenance.

9. Consolidation with competitors; installing new management that will not sacrifice everything to overcome competitors.

10. Business and financial reorganization to meet changed conditions.

Not all reorganizations successful.—Not all reorganizations are successful. The Erie Railroad has been reorganized five distinct times. The Reading has been reorganized three times and the Northern Pacific twice. The present Corn Products Refining Co. is the result of four reorganizations and the Westinghouse Electric of two. A stockholder in the original National Cordage Company who purchased ten shares of preferred stock in 1890 and who stayed through the various reorganizations until 1905 would have increased his original investment of \$1,000 to \$1,320 through assessments, and to \$2,100 if lost interest is included. In return for this, he would have securities worth exactly \$46.80 in 1905, and which were even then subject to a further assessment.¹

Average result of reorganizations.—In the average instance, reorganizations of American companies have been successful. Mr. J. D. Evans, in an article which appeared some time ago, compiled a list of the various securities of the principal American reorganizations which showed the rate of return prior and subsequent to reorganization. This list shows concretely that as a general rule it has proved profitable to stay through the reorganization.

	Old rate of return average	New principal received in bonds	New principal received in stock	Immed. return on former principal	Subsequent return on former principal
Bonds either entirely or pre- dominantly a first lien on main property.....	5.10%	109.10%	24.30%	4.997%	5.097%
Bonds chiefly secured by sec- ond liens on main property	5.40%	71.30%	56.50%	4.250%	5.30%
Bonds chiefly secured by third liens on main property...	6.29%	90.33%	44.43%	4.74%	4.99%
Bonds secured by subsequent liens	5.71%	40.71%	80.00%	2.333%	4.76%
Low-grade-division and branch-line bonds.....	5.60%	53.00%	74.00%	3.280%	3.92%
Equipment mortgage bonds..	5.00%	100.00%	48.00%	5.92%	5.92%
Stocks	none	none	98.00%	0.476%	4.87%

¹From "Corporate Promotions and Reorganizations," A. S. Dewing.

Example of effect of reorganization on securities.

—The M. Rumely Company, manufacturers of agricultural implements, was reorganized during 1914. The preferred stockholders were assessed \$17 per share and by reason of paying the assessment received \$17.90 in debenture 6 per cent bonds and one-half of one share of common stock. The common stockholders were assessed \$9 per share in return for which they received \$9.49 in debenture 6 per cent bonds and one-quarter of one share of common stock. A stockholder had to decide whether to pay the assessment on this basis, or to sell his securities. The market price was \$11 per share for the preferred and \$6 per share for the common.

The situation thus presented to a holder of 500 shares of preferred, or 500 shares of common, was analyzed at the time of the reorganization by Prof. Chas. W. Gerstenberg in "Securities of Failing Companies," in part as follows:

The mathematical calculations that the investor will use to solve his problem may be briefly set forth in the following form:

Market value 500 shares Preferred at \$11.00.....	\$5,500.00
Assessments 500 shares Preferred at \$17.00.....	8,500.00
Total sum risked in 500 shares Preferred Stock.....	<u>\$14,000.00</u>
Interest (6%) on \$8,947 debentures received for assessments..	\$536.82
Dividends (1.8%) on \$25,000 Common Stock.....	450.00
Total expected income.....	<u>\$986.82</u>

The \$8,947 worth of debentures given at 95 for the \$8,500 of assessments will undoubtedly receive its 6 per cent interest, since it has a very early claim on the assets of the company and since the entire interest requirements for the debentures amount to but little over \$200,000.

If the investor received nothing other than the interest on his debentures he would receive a return of 3.8 per cent on his total investment of \$14,000. This, to be sure, is a fairly small rate of return but on the other hand it is quite certain. If our conclusions as to the net earnings available for dividends are correct—and they are the same conclusions that have been reached

by other persons—the investor will have a total income of \$986.82, which is a little over 7 per cent on the \$14,000 risked. There is a reasonable chance of the investor receiving a return as high as 7 per cent, with an almost certain chance of receiving a minimum of 3.8 per cent. Under those circumstances the investor would probably come to the conclusion that he had better pay his assessments on the preferred stock and remain in the reorganized company.

The same method may be used for the common stock.

Market value 500 shares Common at \$6.00.....	\$3,000.00
Assessments 500 shares Common at \$9.00.....	4,500.00
Total amount risked.....	\$7,500.00
Interest (6%) on \$4,737 debentures received for assessments..	\$284.22
Dividends (1.8%) on \$12,500 Common Stock.....	225.00
Total expected income.....	\$509.22

The investor is certain to get 3.8 per cent again (that is, the interest on his debentures), and has a fair chance of receiving as much as 6.8 per cent. He will conclude to remain in the reorganized company with both his preferred and common stock."

Later events have borne out strongly the wisdom of Prof. Gerstenberg's conclusions. During July, 1919, the debenture bonds were quoted at 95, and the common stock at 54. The stockholders owning 500 shares of Preferred and Common in the old company, who stayed through the reorganization, paid the assessment, and retained their holdings up to July, 1919, would have the following profit:

PREFERRED STOCK

Present value: (1919)

\$8,947 debenture bonds at 95.....	\$ 8,500
250 shares common at 54.....	13,500
Total present value.....	\$22,000
Less assessment paid in 1914.....	8,500
Net value.....	\$13,500
Market value of 500 shares preferred at 11 in 1914.	5,500
Net profit.....	\$ 8,000

COMMON STOCK

Present value: (1919)

\$4,737 debenture bonds at 95.....	\$ 4,500
125 shares common at 54.....	6,750

Total present value.....	\$11,250
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Less assessment paid in 1914.....	4,500
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Net value.....	\$ 6,750
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Market value of 500 shares common at 6 in 1914....	3,000
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Net profit.....	\$ 3,750
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CHAPTER XX

THE BUSINESS OF INVESTMENT BANKING

Investment banking explained.—Investment bankers are dealers in relatively long-term securities. They may thus be distinguished from commercial bankers who deal primarily in short-term paper. Business men who desire the use of additional capital approach their bankers for accommodations. If the purpose of the new funds is simply to carry the enterprise over a seasonal peak, such as a retail store during the holidays, the commercial banker will advance the money with the understanding that repayment will be made at the end of the season. Ordinary commercial loans do not exceed ninety days, although occasionally the maturity may be six months. Twelve months is regarded as the maximum.

If the purpose of the new capital is to expand the plant or to provide permanent working capital, the commercial banker will not make the loan but will refer the borrower to an investment banking house. Unlike commercial bankers, investment bankers do not carry on deposit any money which may be loaned. These bankers advance the funds to the business by purchasing stock or bonds issued by the enterprise and recover the advance by selling the securities to investors.

Investment banking and brokerage are essentially different, although the same house may conduct both operations. A brokerage house acts as agent for the investor, and as

such, has nothing to buy or sell. Such a house simply executes orders to buy or sell with other parties and receives payment for the service in the form of an established rate of commission. An investment banking house, however, acts as a dealer in securities. It buys and sells securities directly and, like the ordinary business firm, receives a dealer's profit of the margin between the cost of the security and the sales price. For this reason a commission charge is added to the price of securities bought through a brokerage house although the price of a security purchased through an investment banking house is net, that is, without commission charge.

Investment and commercial banking combined.—During recent years, there has been a notable tendency on the part of commercial banks to add an investment banking function. Some banks do so by simply establishing a securities department. In the large cities, the plan has been to form a separate subsidiary company. Examples in New York are the National City Company formed by the National City Bank and the Guaranty Company formed by the Guaranty Trust Company. This development in no way invalidates the previous statement that investment and commercial banking are essentially different fields.

Types of investment banking houses.—No definite method of classification exists by which investment banking houses may be divided. Yet in general the statement holds that some firms perform wholesale as well as the retail function which all offer. Some of the large firms, such as J. P. Morgan and Company, or Kuhn, Loeb and Company may purchase a large issue and obtain the services of smaller houses in distributing the securities to investors.

Many of the investment banking houses endeavor to specialize in classes of securities. One firm deals chiefly in

issues of the United States Government, another in municipals, another in rails, another in utilities, and still others in various classes of industrials. A great many specialize in unlisted securities. Specialists are found in railway equipments, in convertible securities, in bank stocks, and in foreign issues. Outside of New York, many firms specialize in securities of local companies. Investors should always be acquainted with houses which specialize in the securities in which they have a direct interest.

Functions of investment banking houses.—An investment banking house may be said to perform four main functions. Securities must be purchased before they may be offered for sale. The issues must then be sold. In the process of purchase, companies must be advised as to the best type to offer and in the process of sale, investors must be counseled as to the best policy. Should the investor become involved in a poor security, the duty of the investment house is to protect the interest of the client. The four functions are therefore purchasing, selling, advising, and protecting.

The purchasing function.—Securities are ordinarily purchased at private sale. The company approaches the investment banking house, states its requirements, and the negotiations continue until a definite decision is reached. Municipal bonds are generally purchased at public sale with the award going to the house which makes the most favorable bid. As a matter of custom and expediency this practice is not followed by corporations. Not only does the company negotiate privately but also it seldom deals with more than one house. Only in the case of new firms is there any "shopping around" the investment houses. Once a connection is established, it is customary for the company to continue to bring out its new issues through the same

house. The house becomes known as the fiscal agent for the company. Such an arrangement exists between the New York Central and J. P. Morgan and Company, and between the Union Pacific and Kuhn, Loeb and Company.

This continuing relationship has been subject to criticism chiefly upon the ground that competition between investment bankers for new corporate issues would give the company a better price and further would tend to prevent banking influence upon corporate policy. While it may be admitted there is some ground for the criticism, the advantages of continuing relations outweigh the disadvantages. Experience with repeated issues makes the investment banker well acquainted with the affairs of the company. He is thus placed in a position to advise intelligently not only when new capital is desired, but also during intervening periods when fiscal policies are being formulated. In times of financial emergency the banking house has a responsibility to help out its regular client which would not be felt if the company were simply an occasional client. Moreover, the relationship can continue only so long as it is mutually profitable and the general satisfaction that exists on all sides with the present arrangement is probably the strongest reason for its continuance.

The usual steps followed by a house in making an original purchase of a security issue may be divided into three major steps. The first is the preliminary, or office, analysis. The second is the plant, or physical examination. The third is the negotiation conference when the final decision is reached.

The office analysis is conducted at the office of the investment bankers and covers the financial statements and the general history of the company. Most proposals do not get beyond this stage. The prime requirement is that the company show a satisfactory earning record over a period of at least several years. It may be assumed, however, that

the preliminary analysis is favorable and negotiations reach the second stage.

The plant examination is conducted at the place of business of the corporation. Representatives in the service of the investment house conduct a searching inquiry into the internal affairs of the company. Appraisers value the buildings, equipment and inventories. Auditors verify the financial records and inspect the accounting methods with particular regard to such important practices as depreciation policy. Industrial engineers observe production methods. Marketing specialists analyze the distribution of the product and determine the position of the company "in the trade." Legal counsels pass upon franchises, leases, and contracts. Reports on all of these phases are received by the house and, if favorable, the negotiation conference is arranged.

At the negotiation conference, a final decision is reached. Agreement upon the nature of the security, whether stock or bond, the exact kind, the interest rate, maturity date, and purchase price, completes negotiations. At all stages, the house must be most vigilant. The purchase is made for resale, not for investment. The security must be good in every respect and the purchase price must be based upon the expected sales price. The margin is close, seldom exceeding five points which is five dollars on each hundred dollars par value. The risk of loss is great as the entire issue must be marketed and selling expenses must be paid. But if the purchasing function is properly performed, the house should now own an issue which should be readily marketed. A security well-bought is half sold.

The selling function.—The selling function is naturally the most important. The main reason for the existence of the house is to market securities. All other functions and activities serve primarily to facilitate sales. At all times during purchase negotiations, the buyers are mindful of the

market and especially the desires of their own customers. Naturally the issue will not be taken unless confidence exists that it may be readily sold.

The offering is made to investors almost immediately upon purchase. Fear that an unfavorable turn to the market may develop prompts quick action. The definitive securities cannot be prepared for months but temporary certificates are made available. Clients of the house will be informed at once. Local customers will be approached either in person or over the telephone by the salesman. Out-of-town clients will be notified by mail. Circulars are prepared and with a letter of recommendation are sent out to prospective purchasers on the mailing list. Advertisements are inserted in the newspapers and periodicals. Replies, better known as "leads", are turned over to the sales force to be followed up by personal call or correspondence.

The sales effort is not made blindly. Present holders of other securities of the same company are excellent prospects. Other investors may find it profitable to exchange other holdings into the new issue. The tax position of the new issue makes it appeal differently to various types of investors. If the new security enjoys a "legal" position, savings banks and trustees are the best prospects. All in all, a determined effort is made to "clear the counters" of the security at the earliest possible moment.

Training of salesmen.—The selling of bonds requires salesmanship of a very high order. Not everyone can become a good salesman and many successful salesmen in other lines have failed completely in attempting to sell securities. So important is the selling function and so difficult is the problem of securing good salesmen that many bond houses have found it advisable to develop their own sales force. But before a man may be trained he must be selected, and in the selection of its men the bond houses are very care-

ful. It is of more than passing interest to note the advent of the bond saleswoman in this connection. Several of the prominent New York houses have saleswomen in their employ and the results have been quite satisfactory.

When the prospective salesman is selected, his training immediately starts. If the organization is a large one, he may devote his entire time to class instruction until he has a fair working knowledge of the business. Lee, Higginson & Co., the National City Company, and other houses have schools of this nature. The student is paid a nominal salary during his period of instruction. If the organization is comparatively small, the training is not so systematic. The student may find himself obliged to do office work of every character from running errands to assisting the statistician compute operating ratios. He will be expected to ask innumerable questions and to acquire gradually the requisite knowledge. The time required by the training period may vary anywhere from one month to a year, according to the time devoted to actual study.

The protective function.—The protective function of the investment banker is dual in nature. He should keep his clients out of poor securities; but if, despite his precaution, a security does turn out poor, he should protect the buyers as far as possible. The protective function is best exercised in purchasing upon the theory of the ounce of prevention. Should, however, the investor find himself holding securities of failing companies, he feels that the house through which he purchased should help him out of his difficulty. The house shares the feeling and assists in the appointment of protective committees and in the work of reorganization, as is explained in detail in another chapter. In another way, the house protects the buyers by maintaining the offering price until the issue is fully distributed and by creating an "over the counter" market for unlisted securities.

The advisory function.—Investment bankers are in a position to serve both companies and investors in an advisory capacity. They are acquainted with the current mood of the investment market and can thus suggest the type of security which is likely to prove most successful. If it is a stock issue, the recommendation may be common or preferred, and if preferred, it may or may not be advisable to include convertible, callable, and cumulative features. If it is a bond, debenture issues may be recommended so that mortgage issues may be reserved for a greater need. The maturity date, the interest rate, and the various protective covenants can be more intelligently decided with the help of the bankers. After the issue has been sold, the continuing relationship enables the house to keep in touch with the company and advise of advantageous developments such as the refunding of high interest-bearing bonds into lower-rate bonds and the redemption of outstanding issues prior to maturity.

The investor is advised as to purchases of new securities, the exchange of holdings, and the re-investment of interest payments and principal redemptions. In reorganizations, counsel is offered as to the advisability of selling or continuing. Many houses keep a list of securities owned by clients and render periodic reports.

Syndicate marketing.—If a new issue of securities is too large for a single house to handle, the usual practice is for a selling syndicate to be formed by the house which has bought the issue. In many cases, especially in the municipal field, the syndicate may cover both purchase and sale. The present tendency is toward such dual syndicates. The terms of the syndicate agreements vary and a new contract is made on each new issue handled although the firm membership may be unchanged. Usually each firm subscribes to, or is allotted, a definite part of the issue. The sale of its

share may release a member from further responsibility although the firm may in other cases be required to take up its percentage of any unsold portion in the general total. The "take down" price is the price to the syndicate members. The public price is the sales price. In the famous Anglo-French Loan of \$500,000,000 in 1915 the syndicate price was 96 and the price to the public was 98.

One of the houses acts as manager of the syndicate and has general charge of the operations. Allotments are made, subscriptions are called, securities are temporarily hypothecated, circulars and advertisements are prepared, the syndicate is terminated, expenses are allocated, and a final report is rendered—all by the syndicate manager.

Not all syndicates prove profitable by any means. The issue cannot be a partial success. Either it is a complete success or a failure. The profit derived from the sale of ninety per cent of the issue may be entirely lost in disposing of the remaining ten per cent. The syndicate is obliged to keep the market price up to the offering price until the entire issue is sold. To do so, the manager must be ready to buy back from disheartened purchasers any of the securities sold. A case is on record where 153,000 shares of stock had to be repurchased out of 172,900 total shares sold over about three weeks. Some subscribers, expecting an over-subscription, ask for more than desired in anticipation of a cut in allotments. If their subscription is allotted in full, often they sell immediately not only the extra part but usually the entire amount subscribed for on the reasoning that the issue evidently is not so good as they previously believed.

Upon occasions the syndicate operations prove quite unsuccessful. The duration of the syndicate may be extended and re-extended until it drags for many months. In rare cases, the public price may be reduced to encourage sales. Despite these tactics, the syndicate may be dissolved with

a large unsold percentage. The members are obliged to take up their respective shares. The artificial support to the market is released and the market price falls.

In 1923, J. P. Morgan and Company acted as managers for a syndicate to market \$50,000,000 in the Republic of Cuba 5½ per cent notes. The syndicate members were the managers, Kuhn, Loeb and Co., National City Co., Guaranty Co., Bankers Trust Co., Harris, Forbes & Co., J. & W. Seligman & Co., and Dillon, Read & Co., one of the strongest syndicates in the country. The public price was 99¼. Over a period of nine months, the syndicate sold but eighty per cent of the notes, leaving \$10,000,000 to be taken up by the members. Upon dissolution of the syndicate, the market price dropped from its artificial "peg" of 99¼ to 94¼,—a loss of \$500,000 on the unsold bonds. In this case, the syndicate was barely profitable.

The syndicate which handled the St. Paul General 4½ per cent bonds in 1917 amounting in total to \$25,000,000 had to take up 43 per cent of the bonds with the market price 88½ compared with the offering price of 93½. This syndicate was quite unsuccessful. The loss sustained by the syndicate which underwrote the issue of American Woolen Common in 1920 was enormous.

Incidentally it may be stated that the closing of subscription books on a new issue does not always mean that the distribution is complete. Often it means that the issue has been fully taken up by investment bankers who anticipate little difficulty in actual distribution to the investing public.

Sometimes the reverse is true. A recent offering of \$50,000,000 in New York Telephone bonds brought subscriptions of \$488,000,000. About the same time, an offering of \$30,000,000 in New York Edison bonds brought such

an over-subscription that the first market quotation was about three points higher than the offering price.

Investment Bankers Association of America.—

This association comprises many of the leading investment banking houses of the country. Houses are not permitted to advertise membership despite the fact that such would greatly enhance prestige. The association viewpoint is that such procedure would involve a degree of responsibility to the investing public which could be assumed only after long experience.

The association has one national meeting annually. From the investor's viewpoint, the most interesting feature of these meetings are the reports of the committees on the different classes of securities, such as foreign, industrial, irrigation, marine, municipal, public service, railroad and real estate. These reports are usually outstanding contributions and the author gratefully admits his indebtedness to them for much of the material offered in this volume.

CHAPTER XXI

MATHEMATICS OF INVESTMENT

Scope of the discussion.—The computation of security yields, of the value of stock subscription rights, of conversion parities, of discount accumulations, of premium amortizations, and of income allotments, involve the use of certain mathematics which are peculiar to the field of investment banking. In some instances, the calculations are highly involved, as will be shown. But often approximate figures, sufficiently accurate to serve the purpose, can be determined in simple fashion. Both approximate and exact methods are illustrated.

Net yield explained.—The net yield on an investment is the annual rate of return secured upon the cost price. Net yield is the actual rate received and differs from nominal yield which is the established rate fixed upon the security when issued. The nominal yield on a 5 per cent bond is always 5 per cent. Net yield coincides with nominal yield only when the cost of the security is the same as the par value. The yield obtainable is one of the most important factors considered by investors. The rate of return should always be commensurate with the degree of risk assumed. It is almost equally inadvisable to buy very low yielding securities as to buy those with very high yields.

The price of an investment security is always less significant than its yield. A bond purchased at 96 and yielding 5.75 per cent is really higher priced than another bond

bought at 102 and yielding 6 per cent. Bonds are bought usually on the basis of percentage of yield rather than on the basis of dollars per bond. Many bonds are offered at "price to yield 5.2 per cent" without the actual price in dollars being stated. And even when the price is stated the yield is also given. Buying bonds according to net yields is known as "buying on a basis."

The determination of net yield on stocks is a simple calculation. The determination of net yield on bonds is more complex as it involves usually the appreciation or depreciation in market price as the security approaches maturity.

Net yield on stocks.—The net yield derived from a stock investment is determined by dividing the annual dividend income by the cost. The annual dividend rate will consequently be the net yield only if the stock is purchased at par, since dividends are declared on par value. Delaware and Hudson stock, which has a par value of \$100 and pays 9 per cent per annum, would give a net yield of 10 per cent if purchased at 90; of $9\frac{1}{2}$ per cent at 95; 9 per cent at 100; about 8.6 per cent at 105; 8.2 per cent at 110; and 6 per cent at 150. Pennsylvania Railroad stock, par \$50, paying 6 per cent, yields $7\frac{1}{2}$ per cent at 40; $6\frac{2}{3}$ per cent at 45; 6 per cent at 50; $5\frac{1}{2}$ per cent at 55; 5 per cent at 60; and $4\frac{2}{7}$ per cent at 70. It will be noted the dividend in dollars, not in percentage, is divided by the cost price. The net yield on a stock investment therefore remains constant as long as the dividend rate is unchanged. Extra dividends affect the net yield only for the year in which received. Stock dividends do not directly affect the net yield, although they may cause eventually a change in the dividend rate.¹

¹An increase of 25 per cent in outstanding stock by reason of a stock dividend necessitates an increase of 25 per cent in the total dividend payments if the rate of dividends is to remain unchanged. If the earnings do not permit of the increased divi-

Formula for stock yields.—Let A equal market price of stock in dollars, B equal annual dividends in dollars and X equal yield.

$$X = \frac{B}{A}$$

Illustration.—Pennsylvania Common has a par value of \$50, pays 6 per cent annual dividends, and is quoted at 45. Determine the yield.

$$X = \frac{\$3.00}{\$45.00} = 6\frac{2}{3}\%$$

Net yield on bonds.—The net yield on bonds purchased at par coincides with the interest rate. Bonds purchased above par, known as “at a premium,” or below par, “at a discount,” do not afford so easy a solution. Practically all bonds mature at a definite date, and at maturity will be redeemed at par, regardless of the cost to the investor. It is therefore evident that a bond purchased at a discount gradually appreciates in value as it approaches maturity, and a bond purchased at a premium depreciates for the same reason. Such appreciation or depreciation is not problematical as in the case of stock, but is actual and positive, and should be provided for. Obviously the amount received as interest is not the true income if the principal either appreciates or depreciates. It is no more than logical to assume that in such cases the real income is determined by the actual income reduced by the amount of depreciation of principal, or increased by the amount of appreciation. The depreciation is called amortization; the appreciation, accumulation.

dend payments, the rate will have to be reduced, even though the same amount is paid out at the regular dividend dates as was paid out previous to the stock dividend distribution.

The net yield on a ten-year 5 per cent bond purchased at par is 5 per cent because the amount of principal will be the same at the date of redemption as it was at the date of purchase. The same bond bought at 110 will not yield 5 per cent for two distinct reasons. Interest is paid on the par value, and the return, before considering amortization, is about $4\frac{1}{2}$ per cent. This yield is subject to a further reduction to provide for the depreciation of the investment. If the bond in question is assumed to have a denomination of \$1,000, its cost was \$1,100 and redemption value is \$1,000, or a loss of principal amounting to \$100, at the rate of \$10 per year. To make the illustration as simple as possible, it is apparent that the true income on the investment is \$50, the actual interest, less \$10 to compensate for depreciation of principal, or \$40 on an investment of \$1,100, or about 3.6 per cent. If the bond was purchased at 90, the net yield would exceed the nominal return. The interest payment of \$50 would be subject to an increase of \$10 annually to cover appreciation of principal, giving a total income of \$60 on an investment of \$900, or a net yield of $6\frac{2}{3}$ per cent. The calculations shown are not sufficiently accurate for general use, but in a simple way show the principles underlying amortization and accumulation.

Net yield on bonds is really average yield.—
The illustration given in the preceding paragraph does not correctly state the net yield inasmuch as it assumes the annual amounts, deducted from the interest payment as amortization or added as accumulation, do not themselves yield any income thereafter. A more reasonable assumption would be that the amount received as amortization or accumulation would be reinvested at an income rate which may arbitrarily be assumed to coincide with the investment

rate. This will justify an annual reduction in the cost of the investment in determining the net yield.

	<i>Cost</i>	<i>Total Interest</i>	<i>Amortization</i>	<i>Net Interest</i>	<i>Yield %</i>
1st year.....	\$1,100	\$50	\$10	\$40	3.64
2d year.....	1,090	50	10	40	3.67
3d year.....	1,080	50	10	40	3.70
4th year.....	1,070	50	10	40	3.73
5th year.....	1,060	50	10	40	3.77
6th year.....	1,050	50	10	40	3.81
7th year.....	1,040	50	10	40	3.85
8th year.....	1,030	50	10	40	3.89
9th year.....	1,020	50	10	40	3.92
10th year.....	1,010	50	10	40	3.96

The yield on the investment is therefore not 3.64 per cent, as shown in the first example, but changes each year as the principal is decreased. It would be more practicable to state that the yield on such an investment would average about 3.80 per cent than to say it ranges from 3.64 per cent to 3.96 per cent. Upon the assumption that the average yield is 3.80 per cent, the table may be recompiled as follows:

	<i>Cost</i>	<i>Total Interest</i>	<i>Amortization</i>	<i>Net Interest</i>	<i>Yield</i>
1st year.....	\$1,100.00	\$50.00	\$8.30	\$41.70	3.80
2d year.....	1,091.70	50.00	8.60	41.40	3.80
3d year.....	1,083.10	50.00	9.00	41.00	3.80
4th year.....	1,074.10	50.00	9.30	40.70	3.80
5th year.....	1,064.80	50.00	9.65	40.35	3.80
6th year.....	1,055.15	50.00	10.05	39.95	3.80
7th year.....	1,045.10	50.00	10.40	39.60	3.80
8th year.....	1,034.70	50.00	10.80	39.20	3.80
9th year.....	1,023.90	50.00	11.25	38.75	3.80
10th year.....	1,012.65	50.00	12.65	37.35	3.80

As a matter of custom and of convenience, bond yields are quoted on the average basis, rather than upon the changing

basis from year to year. The amortization or accumulation in each period is therefore determined by the net yield rather than vice versa. Since the net yield remains constant after the original determination, and the interest payment is fixed, the net interest in dollars decreases and the annual amortization increases as the investment cost decreases.

Approximation method.—Bond yields may be computed approximately by different methods. *Current yield* on a bond is figured without regard to maturity date. *Yield to maturity*, however, is more customarily employed.

The current yield on a bond is computed by dividing the annual interest payment by the cost of the bond. If a 5 per cent bond is purchased at 90, the annual interest will be \$50 upon an investment of \$900. The rate of return is 5.55 per cent. Current yield on bonds is of interest chiefly to those who are holding the securities temporarily. Investors who are making a relatively permanent commitment prefer yield to maturity rather than current yield.

Determining the yield to maturity requires adding to, or subtracting from, the annual interest payment an equalized amount to cover the yearly accumulation if the bond is bought at a discount, or the yearly amortization, if the bond is bought at a premium. If the 5 per cent bond bought at 90 mentioned in the preceding paragraph bore a twenty-year maturity, the equalized yearly accumulation would be \$5. (\$1,000 maturity value of bond minus \$900 purchase price equals \$100 which divided by 20 years to maturity gives \$5.). The total annual income would be the interest of \$50 plus the accumulation of \$5, or, \$55. The total annual income of \$55 divided by the cost price of \$900 equals 6.12 per cent which is the approximate yield to maturity.

A more accurate approximation can be determined by going one step further. 6.12 per cent is the yield for the first year. The yield for the last, or twentieth year, would

be 5.53 per cent (\$55 divided by \$995). As the yield during the first year was 6.12 per cent and during the last year was 5.53 per cent, the average yield was 5.82 per cent. Although this is admittedly an approximation method, the result checks closely with the actual yield as shown in bond tables based upon elaborate mathematical formulae.

Formulae for approximate bond yields.—

Let A=market price of bond in dollars
 B=annual interest in dollars
 C=amount of discount (\$1,000—A)
 D=amount of premium (A—\$1,000)
 E=number of years to maturity
 F=annual accumulation (C÷E)
 G=annual amortization (D÷E)
 X=yield to maturity

Formula for discount bond.—

$$X = \frac{\frac{B + F}{A} + \frac{B + F}{A + F(E - 1)}}{2}$$

Formula for premium bond.—

$$X = \frac{\frac{B - G}{A} + \frac{B - G}{A - G(E - 1)}}{2}$$

Illustration of discount bond.—A thirty-year 5 per cent bond is bought at 85. Determine the yield to maturity.

$$X = \frac{\frac{\$50 + \$5}{\$850} + \frac{\$50 + \$5}{\$850 + \$5(30 - 1)}}{2}$$

$$\frac{\$55}{\$850} + \frac{\$55}{\$995} = \frac{.0647 + .0558}{2} =$$

$$\frac{.1205}{2} = .0603 = 6.03\%$$

Illustration of premium bond.—A twenty-year 6 per cent bond is bought at 110. Determine the yield to maturity.

$$X = \frac{\frac{\$60 - \$5}{\$1100} + \frac{\$60 - 5}{\$1100 - \$5 (20 - 1)}}{2}$$

$$\frac{\$55}{\$1100} + \frac{\$55}{\$1005} = \frac{.0500 + .0547}{2} =$$

$$\frac{.1047}{2} = .0523 = 5.23\%$$

Premium bonds are less popular than discount bonds. Investors prefer to buy for less than par than to pay more than par, although the premium bond may afford the higher yield. The reason is entirely psychological.

Bond tables.—Perhaps the problems most frequently arising in connection with bond investment are, first the net yield of a bond when price, redemption value, and maturity are known; and second, to ascertain the price at which a bond of known redemption value and maturity must be purchased to yield a certain desired return. The problems are reciprocal and the answer to one comprehends the solu-

tion of the other. Bond tables afford the speediest information.

At the outset it may be stated that bond tables are not complete. Complete bond tables in the true sense of the word would show the net yield on every amount invested at every possible rate of interest for every possible maturity. Such a compilation is of course out of the question. Bond tables may be constructed within any desired limitations. Those illustrated are the Rollins¹, the Sprague², and the Johnson³ tables. The Rollins tables show the value to the nearest cent of a bond for \$100 bearing interest at the rates of 2, 2½, 3, 3½, 4, 4½, 5, 6, and 7 per cent and yielding from 2 to 7 per cent. The Sprague tables show the value to the nearest cent of a bond for \$1,000,000 bearing interest from 3 to 7 per cent and yielding from 1¼ to 10 per cent. The Johnson tables show the yields obtainable from bonds of standard denomination, maturities and interest rates.

Use of Rollins tables.—A specimen page from the Rollins tables is shown. The maturity, 20 years, appears at the top of the page. Assume a bond maturing in 20 years, bearing 5 per cent interest, is purchased at \$1,093.33; requiring the net yield. Since the first horizontal row shows the nominal yields, reference is made to the column headed 5 per cent. In this column, 109.33 appears opposite 4.30 per cent in the first vertical column which shows the net yield. The required net yield is therefore 4.30 per cent.

If the exact cost price does not appear in the column, a process known as interpolation is necessary, which is later described. The second assumption is that the bond has the

¹ "Bond Values," Montgomery Rollins.

² "Complete Bond Tables," Charles E. Sprague.

³ "Bond Yields," D. C. Johnson.

ROLLINS TABLES

20 YEARS. INTEREST PAYABLE SEMI-ANNUALLY

Per cent. per an.	3%	3½%	4%	4½%	5%	6%	7%
2.90	101.51	109.06	116.60	124.15	131.70	146.80	161.89
3.	100.00	107.48	114.96	122.44	129.92	144.87	159.83
3.10	98.52	105.93	113.34	120.75	128.16	142.98	157.81
3½	98.15	105.55	112.94	120.33	127.73	142.52	157.31
3.20	97.06	104.41	111.75	119.09	126.44	141.13	155.82
3¼	96.34	103.66	110.97	118.28	125.59	140.21	154.83
3.30	95.63	102.91	110.19	117.47	124.75	139.30	153.86
3.35	94.93	102.17	109.42	116.66	123.91	138.40	152.89
3¾	94.58	101.81	109.04	116.27	123.49	137.95	152.41
3.40	94.23	101.44	108.66	115.87	123.08	137.51	151.93
3.45	93.54	100.72	107.90	115.08	122.26	136.62	150.98
3½	92.85	100.00	107.15	114.30	121.45	135.74	150.04
3.55	92.17	99.29	106.41	113.52	120.64	134.87	149.11
3.60	91.50	98.58	105.67	112.75	119.84	134.01	148.18
3¾	91.16	98.23	105.30	112.37	119.44	133.58	147.72
3.65	90.83	97.88	104.94	111.99	119.04	133.15	147.26
3.70	90.17	97.19	104.21	111.24	118.26	132.30	146.35
3¾	89.51	96.50	103.50	110.49	117.48	131.46	145.44
3.80	88.86	95.82	102.78	109.74	116.70	130.63	144.55
3¾	87.90	94.81	101.73	108.64	115.56	129.39	143.22
3.90	87.58	94.48	101.38	108.28	115.18	128.98	142.78
4.	86.32	93.16	100.00	106.84	113.68	127.36	141.03
4.10	85.09	91.86	98.64	105.42	112.20	125.76	139.32
4¼	84.78	91.54	98.31	105.07	111.84	125.37	138.90
4.20	83.87	90.59	97.31	104.03	110.75	124.19	137.63
4¼	83.27	89.96	96.65	103.35	110.04	123.42	136.80
4.30	82.68	89.34	96.00	102.66	109.33	122.65	135.98
4¾	81.80	88.42	95.04	101.65	108.27	121.51	134.75
4.40	81.51	88.11	94.72	101.32	107.93	121.14	134.35
4½	80.35	86.90	93.45	100.00	106.55	119.65	132.74
4.60	79.22	85.72	92.21	98.70	105.19	118.18	131.16
4¾	78.94	85.42	91.90	98.38	104.86	117.82	130.77
4.70	78.11	84.55	90.99	97.43	103.86	116.74	129.61
4¾	77.57	83.98	90.39	96.80	103.20	116.02	128.84
4.80	77.02	83.40	89.79	96.17	102.55	115.32	128.08
4¾	76.22	82.56	88.90	95.24	101.59	114.27	126.95
4.90	75.95	82.28	88.61	94.94	101.27	113.92	126.58
5.	74.90	81.17	87.45	93.72	100.00	112.55	125.10
5.10	73.86	80.09	86.31	92.53	98.76	111.20	123.65
5¼	73.61	79.82	86.03	92.24	98.45	110.87	123.29
5.20	72.85	79.02	85.19	91.36	97.53	109.87	122.22
5¼	72.34	78.49	84.64	90.78	96.93	109.22	121.51
5.30	71.85	77.97	84.09	90.21	96.33	108.57	120.81
5¾	71.11	77.19	83.27	89.36	95.44	107.60	119.77
5.40	70.87	76.94	83.01	89.07	95.14	107.28	119.42
5½	69.90	75.92	81.94	87.96	93.98	106.02	118.06
5¾	68.72	74.68	80.64	86.59	92.55	104.47	116.38
5¾	67.57	73.46	79.36	85.26	91.15	102.95	114.74
5¾	66.43	72.27	78.11	83.95	89.78	101.46	113.13
6.	65.33	71.11	76.89	82.66	88.44	100.00	111.56

same maturity, 20 years, and bears 4 per cent interest; required the purchase price to yield 4.60 per cent. Reference is made to the column headed 4 per cent and directly opposite 4.60 per cent, the desired net yield, appears 92.21, which shows the required purchase price to be \$922.10 for a \$1,000 bond. Interpolation is again necessary if the required net yield is not given in the yield column.

Use of the Sprague tables.—A sample page from the Sprague tables likewise is shown. A difference from the Rollins tables is immediately apparent. The entire page is devoted to the 5 per cent rate for five maturities: 18, 18½, 19, 19½, and 20 years. Similar pages are provided for semi-annual maturities from one to fifty years, also for maturities at five year intervals from fifty to one hundred years. As previously stated, the values are shown to nine places instead of five. Assume that a 5 per cent bond due in 20 years is purchased at \$1,093.27; required the net yield. Reference is made to the 5 per cent page which contains the column headed 20 years, and in that column opposite 109327310 is found 4.30 per cent, the approximate net yield. If the exact purchase price does not appear, interpolation explained in the following paragraph is necessary. The second assumption is that a 5 per cent bond matures in 18 years; required the purchase price to yield 4.15 per cent. Upon reference to the 5 per cent page containing the 18 years column, in that column opposite 4.15 per cent is found 1107034.14. The required cost of a \$1,000 bond is therefore \$1,107.03. If the desired net yield does not appear in the first column, interpolation is necessary.

Interpolation.—Rarely do the bond tables give the desired information directly, because either the exact cost of the bond, or the desired net yield, as the case may be, does not appear therein. This must necessarily be so because

SPRAGUE TABLES

VALUES, TO THE NEAREST CENT, OF A BOND FOR \$1,000,000 AT 5% INTEREST, PAYABLE SEMI-ANNUALLY

Net Income	18 Years	18½ Years	19 Years	19½ Years	20 Years
2.50	1,360,590.84	1,368,484.78	1,376,281.27	1,383,981.50	1,391,586.66
2.55	1,351,885.91	1,359,551.02	1,367,120.83	1,374,504.75	1,381,974.57
2.60	1,343,250.69	1,350,691.70	1,358,037.21	1,365,288.46	1,372,446.66
2.65	1,334,634.58	1,341,904.35	1,349,029.70	1,356,061.83	1,363,002.10
2.70	1,326,186.97	1,333,188.92	1,340,097.60	1,346,914.26	1,353,640.12
2.75	1,317,757.27	1,324,544.78	1,331,240.23	1,337,844.86	1,344,359.91
2.80	1,309,394.89	1,315,971.29	1,322,456.89	1,328,852.95	1,335,160.70
2.85	1,301,099.23	1,307,467.81	1,313,746.92	1,319,937.81	1,326,041.71
2.90	1,292,869.72	1,299,033.73	1,305,109.64	1,311,098.71	1,317,002.18
2.95	1,284,705.78	1,290,668.42	1,296,544.39	1,302,334.95	1,308,041.34
3.00	1,276,606.84	1,282,371.27	1,288,050.52	1,293,645.83	1,299,158.45
3.05	1,268,572.34	1,274,141.68	1,279,627.36	1,285,030.05	1,290,352.77
3.10	1,260,601.71	1,265,979.04	1,271,274.29	1,276,488.71	1,281,623.55
3.15	1,252,694.41	1,257,882.75	1,262,990.65	1,268,019.34	1,272,970.07
3.20	1,244,849.87	1,249,852.23	1,254,775.82	1,259,621.87	1,264,391.60
3.25	1,237,067.56	1,241,886.89	1,246,629.17	1,251,295.62	1,255,887.44
3.30	1,229,346.93	1,233,986.16	1,238,550.08	1,243,039.92	1,247,456.88
3.35	1,221,687.45	1,226,149.45	1,230,537.94	1,234,854.13	1,239,099.22
3.40	1,214,088.60	1,218,376.20	1,222,592.13	1,226,737.59	1,230,813.76
3.45	1,206,549.83	1,210,665.85	1,214,712.06	1,218,689.67	1,222,599.82
3.50	1,199,070.65	1,203,017.83	1,206,897.13	1,210,709.71	1,214,456.72
3.55	1,191,650.52	1,195,431.61	1,199,146.75	1,202,797.10	1,206,383.79
3.60	1,184,288.94	1,187,906.62	1,191,460.33	1,194,951.21	1,198,380.36
3.65	1,176,985.40	1,180,442.33	1,183,837.29	1,187,171.42	1,190,445.78
3.70	1,169,739.40	1,173,038.19	1,176,277.07	1,179,457.11	1,182,579.39
3.75	1,162,550.44	1,165,693.60	1,168,779.08	1,171,807.68	1,174,780.55
3.80	1,155,418.04	1,158,408.28	1,161,342.77	1,164,222.54	1,167,048.61
3.85	1,148,341.69	1,151,181.45	1,153,907.57	1,156,701.08	1,159,382.95
3.90	1,141,320.92	1,144,012.68	1,146,652.94	1,149,242.71	1,151,782.94
3.95	1,134,355.26	1,136,901.45	1,139,308.34	1,141,846.86	1,144,247.96
4.00	1,127,444.21	1,129,847.27	1,132,203.20	1,134,512.94	1,136,777.40
4.05	1,120,587.32	1,122,840.62	1,125,067.01	1,127,240.39	1,129,370.64
4.10	1,113,784.12	1,115,908.01	1,117,989.23	1,120,028.64	1,122,027.08
4.15	1,107,034.14	1,109,021.94	1,110,969.32	1,112,877.12	1,114,746.14
4.20	1,100,336.93	1,102,190.92	1,104,006.78	1,105,785.29	1,107,527.22
4.25	1,093,692.04	1,095,414.48	1,097,101.08	1,098,752.59	1,100,369.73
4.30	1,087,099.00	1,088,692.12	1,090,251.71	1,091,778.47	1,093,273.10
4.35	1,080,557.39	1,082,023.38	1,083,458.17	1,084,862.41	1,086,236.76
4.40	1,074,066.75	1,075,407.78	1,076,719.94	1,078,003.86	1,079,260.13
4.45	1,067,626.66	1,068,844.86	1,070,036.54	1,071,202.29	1,072,342.67
4.50	1,061,236.66	1,062,334.15	1,063,407.48	1,064,457.19	1,065,483.81
4.55	1,054,896.35	1,055,875.19	1,056,832.26	1,057,768.03	1,058,683.00
4.60	1,048,605.29	1,049,467.53	1,050,310.40	1,051,134.31	1,051,939.69
4.65	1,042,363.05	1,043,110.73	1,043,841.42	1,044,555.50	1,045,253.36
4.70	1,036,169.23	1,036,804.33	1,037,424.85	1,038,031.11	1,038,623.46
4.75	1,030,023.41	1,030,547.80	1,031,060.21	1,031,560.65	1,032,049.47
4.80	1,023,925.17	1,024,340.98	1,024,747.05	1,025,143.61	1,025,530.87
4.85	1,017,874.11	1,018,183.17	1,018,484.91	1,018,779.50	1,019,067.13
4.90	1,011,869.83	1,012,074.01	1,012,273.32	1,012,467.85	1,012,657.74
4.95	1,005,911.92	1,006,013.10	1,006,111.83	1,006,208.18	1,006,302.20
5.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00

the tables are incomplete. On the specimen page of the Sprague tables, which are the most complete published, it will be noted that there are 51 out of the 39,158,666 different possible prices between \$1,000,000 and \$1,391,586.66. It would be remarkable if the exact amount should be found among the amounts stated, when the fact is considered that there is only one chance in 767,817 that the amount will be found directly.

Interpolation is a matter of proportion as it is based upon the assumption that the changes in the bond table values are proportionate. This assumption is not absolutely correct, but the degree of variance is too small to be serious.

Assume that a 5 per cent bond is to run 20 years and is purchased at $103\frac{1}{2}$; required the net yield. Using the Rollins table, the nearest amounts which appear are 103.20 and 103.86, which give net yields of 4.75 per cent and 4.70 per cent respectively. The required net yield is therefore between 4.75 per cent and 4.70 per cent. The difference in amount is .66; in per cent, .05 per cent. The given price, 103.50, being .30 greater than 103.20, will therefore yield $\frac{30}{66}$ of .05 per cent less than 4.75 per cent, or $\frac{36}{66}$ of .05 per cent greater than 4.70 per cent, making the net yield 4.727 per cent.

The second assumption is that a 5 per cent bond is to run 20 years; at what price should it be purchased to yield 4.95 per cent? The nearest net yields which appear in the Rollins table are 4.90 per cent and 5.00 per cent, which require a cost of 101.27 and 100 respectively. The difference of .10 in rate represents a difference of 1.27 in price. The difference of .05 per cent between 4.90 per cent and 4.95 per cent therefore must cover a difference of .635 in price ($.10:1.27$ as $.05:.635$), making the required price $101.27 - .635$ or 100.635.

A third assumption may be that, with maturity, purchase

price, and net yield given, it is desired to determine the interest or coupon rate. Although unusual, such a question might conceivably arise. A 20-year bond is purchased at \$1,118.40 to yield $4\frac{1}{8}$ per cent. The Rollins table opposite the $4\frac{1}{8}$ per cent yield, shows 111.84 appearing in the 5 per cent column; 5 per cent is therefore the coupon rate.

The Johnson tables.—The more recently published Johnson tables differ from the older Rollins and Sprague tables. The older tables give a greater number of varying prices and relatively few yields, thus requiring almost constant interpolation to determine the exact yield. Pro-rating is necessary in all cases where the yield is not in exact eighths or tenths. The Johnson tables give a greater number of varying yields and relatively few prices. But the prices which are shown in the Johnson tables are those in which bonds are usually quoted, such as $96\frac{1}{2}$ whereas the prices in the older tables, such as 96.57, do not conform exactly with bond quotations which are always in eighths.

Specimen pages are shown from the Johnson tables, which cover maturities from eighteen to twenty-one years on a five per cent bond. If the yield is desired on such a bond due in twenty years with the market price at 91, reference shows the yield to be 5.764 per cent. The negative sign indicates the exact yield is less than 5.764 per cent but more than 5.7635 per cent.

Interpolation is simpler with the Johnson tables. If the exact price is not given, the nearest price is usually close and at a distance of a readily workable fraction such as one-quarter. In the preceding illustration, had the market price been $91\frac{1}{4}$, inspection would show that $91\frac{1}{4}$ is half-way between the prices stated of 91 and $91\frac{1}{2}$ with respective yields of 5.764 per cent and 5.719 per cent. One-half of the difference in the yields (0.045 per cent) is 0.023 per cent which added to 5.719 per cent gives 5.742 per cent as the required yield.

5%
BOND

Yields in per cent per annum,
correct to the nearest five ten-thousandths of one per cent,
interest payable semi-annually.

Price	18 Years	18½ Years	19 Years	19½ Years	20 Years	20½ Years	21 Years	Current Income
50	11.730-	11.638-	11.551	11.470	11.394	11.322	11.255-	10.000
51	11.507-	11.417	11.333-	11.254-	11.180-	11.110-	11.044-	9.804-
52	11.291-	11.203	11.121	11.044	10.972-	10.903	10.839	9.615
53	11.081-	10.995	10.916-	10.840	10.770-	10.703	10.641-	9.434-
54	10.877-	10.794-	10.716-	10.643-	10.574-	10.509-	10.448-	9.259
55	10.678	10.597	10.522-	10.450	10.383	10.320	10.261-	9.091-
56	10.485-	10.406	10.333-	10.264-	10.198	10.137-	10.079-	8.929-
57	10.297-	10.221-	10.149-	10.082-	10.018	9.958	9.902-	8.772-
58	10.114-	10.040-	9.970-	9.904	9.843-	9.785-	9.730-	8.621-
59	9.935-	9.863	9.795	9.732-	9.672-	9.615	9.562	8.475-
60	9.761-	9.691-	9.625	9.564-	9.505	9.451-	9.399-	8.333
61	9.591-	9.523-	9.459	9.400-	9.343	9.290-	9.240-	8.197-
62	9.425-	9.359	9.297	9.239	9.185-	9.133	9.084	8.065-
63	9.262	9.199-	9.139	9.083	9.030	8.980-	8.933-	7.937-
64	9.104-	9.042	8.985-	8.930	8.879-	8.831-	8.785-	7.813-
65	8.949-	8.890-	8.834-	8.781	8.731	8.685-	8.640	7.692
66	8.797	8.740-	8.686-	8.635	8.587	8.542-	8.499-	7.576-
67	8.649-	8.594-	8.541	8.492	8.446	8.402	8.361-	7.463-
68	8.504-	8.450	8.400	8.353-	8.308-	8.266-	8.226-	7.353-
69	8.362-	8.310	8.262-	8.216-	8.173-	8.132	8.094-	7.246
70	8.222	8.173-	8.126	8.082	8.041-	8.001	7.964	7.143-
70½	8.154-	8.105	8.059	8.016	7.975	7.937-	7.901-	7.092
71	8.086-	8.038	7.993	7.951-	7.911-	7.873	7.838-	7.042
71½	8.018	7.972-	7.928-	7.886	7.847	7.810	7.775	6.993
72	7.952-	7.906	7.863-	7.822	7.784	7.748-	7.713	6.944
72½	7.886-	7.841	7.799-	7.759	7.721	7.686-	7.652	6.897-
73	7.820	7.777-	7.735	7.696	7.660-	7.625-	7.592-	6.849
73½	7.756-	7.713-	7.672	7.634	7.598	7.564	7.532-	6.803-
74	7.692-	7.650	7.610	7.573-	7.538-	7.504	7.473-	6.757-
74½	7.628	7.587	7.548	7.512-	7.477	7.445-	7.414-	6.711
75	7.565	7.525	7.487	7.452-	7.418-	7.386-	7.356-	6.667-
75½	7.503-	7.464-	7.427-	7.392-	7.359-	7.328-	7.298	6.623-
76	7.441	7.403-	7.367-	7.333-	7.300	7.270-	7.241	6.579-
76½	7.380	7.343-	7.307	7.274-	7.242	7.213-	7.185-	6.536-
77	7.319	7.283-	7.248	7.216-	7.185	7.156	7.128	6.494-
77½	7.259	7.224-	7.190-	7.158	7.128	7.100-	7.073	6.452-
78	7.200-	7.165-	7.132	7.101	7.072-	7.044	7.018	6.410
78½	7.141-	7.107-	7.075-	7.045-	7.016	6.989	6.964-	6.369
79	7.082	7.049	7.018-	6.989-	6.961-	6.934	6.910-	6.329
79½	7.024	6.992-	6.962-	6.933-	6.906-	6.880	6.856	6.289
80	6.967-	6.935	6.906-	6.878-	6.852-	6.827-	6.803	6.250
80½	6.910-	6.879	6.850	6.823	6.798-	6.773	6.751-	6.211
81	6.853	6.823	6.796-	6.769	6.744	6.721-	6.698	6.173-
81½	6.798-	6.768	6.741	6.716-	6.691	6.668	6.647-	6.135-
82	6.741	6.713	6.687	6.662	6.639-	6.617-	6.596-	6.098-
82½	6.686	6.659	6.634-	6.610-	6.587-	6.565	6.545-	6.061-
83	6.632-	6.605	6.581-	6.557	6.535	6.514	6.495-	6.024
83½	6.577	6.552-	6.528	6.505	6.484	6.464	6.445-	5.988
84	6.524-	6.499-	6.476-	6.454-	6.433	6.414-	6.395	5.952
84½	6.470	6.446	6.424	6.403-	6.383-	6.364	6.346	5.917
85	6.417	6.394	6.373-	6.352	6.333	6.315-	6.298-	5.882
85½	6.365-	6.343-	6.322-	6.302	6.284-	6.266-	6.249	5.848-
86	6.313-	6.291	6.271	6.252	6.234	6.217	6.201	5.814-
86½	6.261-	6.240	6.221	6.203-	6.186-	6.169	6.154-	5.780
87	6.210-	6.190-	6.171	6.154-	6.137	6.122-	6.107-	5.747
87½	6.159-	6.140-	6.122	6.105	6.089	6.074	6.060	5.714
88	6.108	6.090	6.073	6.057	6.042-	6.027	6.014-	5.682-
88½	6.058	6.041-	6.025-	6.009	5.995-	5.981-	5.968-	5.650-
89	6.008	5.992-	5.976	5.962-	5.948-	5.935-	5.922	5.618-
89½	5.959-	5.943	5.928	5.914	5.901	5.889-	5.877-	5.587-
90	5.910-	5.895	5.881-	5.868-	5.855	5.843	5.832-	5.556-

Yields in per cent per annum,
correct to the nearest five ten-thousandths of one per cent,
interest payable semi-annually.

5%
BOND

Price	18 Years	18½ Years	19 Years	19½ Years	20 Years	20½ Years	21 Years	Current Income
90	5.910-	5.895	5.881-	5.868-	5.855	5.843	5.832-	5.556-
90½	5.861	5.847	5.834-	5.821	5.809	5.798	5.787	5.525-
91	5.813	5.800-	5.787	5.775	5.764-	5.753	5.743	5.495-
91½	5.765	5.753-	5.741-	5.729	5.719-	5.709-	5.699	5.464
92	5.717	5.706-	5.685-	5.684	5.674	5.665-	5.656-	5.435-
92½	5.670	5.659	5.640-	5.639-	5.630-	5.621-	5.612	5.405
93	5.623	5.613	5.603	5.594	5.586-	5.577	5.570-	5.376
93½	5.577-	5.567	5.558	5.550-	5.542-	5.534	5.527-	5.348-
94	5.531-	5.522-	5.514-	5.506-	5.498	5.491	5.485-	5.319
94½	5.485-	5.477-	5.469	5.462-	5.455	5.449-	5.443-	5.291
95	5.439	5.432-	5.425-	5.418	5.412	5.407-	5.401-	5.263
95½	5.394-	5.387	5.381	5.375	5.370-	5.365-	5.360-	5.236-
96	5.349-	5.343	5.338-	5.332	5.328-	5.323-	5.319-	5.208
96½	5.304	5.299	5.294	5.290-	5.286-	5.282-	5.278-	5.181
97	5.260-	5.256-	5.251	5.248-	5.244-	5.240	5.237	5.155-
97½	5.216-	5.212	5.209-	5.206-	5.203-	5.200-	5.197-	5.128
98	5.172	5.169	5.167-	5.164-	5.162-	5.159	5.157	5.102
98½	5.129-	5.126	5.124	5.123-	5.121-	5.119	5.117	5.076
99	5.085	5.084	5.083-	5.081	5.080	5.079	5.078-	5.051-
99½	5.043-	5.042-	5.041	5.041-	5.040-	5.039	5.039-	5.025
100	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000
100½	4.958-	4.958	4.959	4.960-	4.960	4.961-	4.961	4.975
101	4.916-	4.917	4.918	4.920-	4.921-	4.922-	4.923	4.960
101½	4.874-	4.876	4.878	4.880-	4.882-	4.883	4.885-	4.926
102	4.832	4.835	4.838-	4.840	4.843-	4.845	4.847	4.902-
102½	4.791	4.795-	4.798-	4.801	4.804	4.807-	4.810-	4.878
103	4.750	4.754	4.758	4.762	4.766-	4.769	4.772	4.854
103½	4.709	4.714	4.719	4.723	4.728-	4.731	4.735	4.831-
104	4.669	4.675-	4.680-	4.685-	4.690-	4.694	4.698	4.808-
104½	4.629-	4.635	4.641	4.647-	4.652-	4.657-	4.662-	4.785-
105	4.589-	4.596-	4.602	4.609-	4.614	4.620	4.625	4.762-
105½	4.549	4.557-	4.564	4.571-	4.577	4.583	4.589	4.739
106	4.510-	4.518	4.526-	4.533	4.540	4.547-	4.553	4.717-
106½	4.471-	4.479	4.488-	4.496-	4.504-	4.511-	4.518-	4.695-
107	4.432-	4.441	4.450	4.459-	4.467	4.475-	4.482	4.673-
107½	4.393-	4.403	4.413-	4.422	4.431-	4.439-	4.447-	4.651
108	4.354	4.365	4.376-	4.385	4.395-	4.403	4.412-	4.630-
108½	4.316	4.328-	4.339-	4.349	4.359-	4.368	4.377-	4.608
109	4.278-	4.290	4.302-	4.313-	4.323	4.333	4.342	4.587
109½	4.240	4.253	4.265	4.277-	4.288	4.298	4.308	4.566
110	4.203-	4.218	4.229-	4.241	4.253-	4.263	4.274-	4.545
111	4.128-	4.143-	4.157-	4.170	4.183-	4.195-	4.206	4.505-
112	4.054	4.070	4.086-	4.100	4.114-	4.127-	4.139	4.464
113	3.981	3.999-	4.015	4.031-	4.046-	4.060-	4.073	4.425-
114	3.909	3.928	3.946-	3.963-	3.978	3.993	4.008-	4.386-
115	3.838	3.858	3.877	3.895-	3.912-	3.928-	3.943	4.348-
116	3.768-	3.789	3.809	3.828	3.846-	3.863-	3.879	4.310
117	3.698	3.721-	3.742-	3.762-	3.781-	3.799-	3.816-	4.274-
118	3.629	3.653-	3.675	3.696	3.716	3.735	3.753	4.237
119	3.561	3.586	3.610-	3.632-	3.653-	3.673-	3.692-	4.202-
120	3.494-	3.520-	3.544	3.568-	3.590-	3.611-	3.631-	4.167-
121	3.427	3.454	3.480	3.504	3.528-	3.549	3.570	4.132
122	3.361	3.390-	3.416	3.442-	3.466-	3.489-	3.510	4.098
123	3.296-	3.325	3.353	3.380-	3.405-	3.429-	3.451	4.065
124	3.231	3.262-	3.291-	3.319-	3.345-	3.369	3.393-	4.032
125	3.167	3.199	3.229	3.258-	3.285-	3.311-	3.335-	4.000
126	3.104-	3.137-	3.168	3.198-	3.226-	3.252	3.278-	3.968
127	3.041	3.075	3.108-	3.138	3.167	3.195-	3.221-	3.937
128	2.979	3.014	3.048-	3.079	3.109	3.138-	3.165-	3.906
129	2.918-	2.954	2.988	3.021	3.052	3.081	3.109	3.876-
130	2.857-	2.894	2.930-	2.963	2.995	3.025	3.054	3.846

Net yield on redeemable bonds.— The net yield on bonds which are redeemable prior to date of maturity should not be calculated exactly the same as that on bonds which do not have the same feature. Since net yield of bonds which are purchased either at a discount or a premium is largely dependent upon maturity date, this fact is important. Many bonds contain provisions whereby they may be redeemed by the issuer after a certain date and prior to maturity date. The conservative investor will remember that the option is with the issuer and redemption will be made only when it is to the issuer's advantage; and conversely, probably to the holder's disadvantage. The holder of a redeemable bond purchased at a discount should therefore base his maturity at the final date of payment, while a bond purchased at a premium should have as a base the earliest possible date of redemption. In this way his accounts will be subject to additional profit if payment is made differently from his calculations. This result is of course preferable to a possible loss which would result if the reverse plan were followed.

Construction of bond tables: Underlying formulæ.—Bond tables are in such general use that a discussion of the underlying formulæ on which they are constructed is of practical interest. It is not generally understood that a bond buyer is purchasing the present net worth of the face of the bond and of the coupons discounted according to the various maturities. Yet in the final analysis, this is the precise status. The bond buyer does not purchase principal alone, for the present value of \$1,000 payable twenty years from now is much less than \$1,000. The present values of the coupons vary as the coupon for \$25 due in six months is worth almost face value, while that payable nineteen years from date is not so valuable.

Compound interest.—

Let n = number of interest periods

N = rate per period

The valuation of \$1 at compound interest for n periods at N rate is

$$(1 + N)^n$$

Assume \$1 is invested at compound interest credited semi-annually, for 10 years at 6 per cent; required the total valuation.

$$(1 + N)^n = (1 + .03)^{20} = (1.03)^{20}$$

The use of logarithms simplifies the task:

$$\text{Log } 1.03 = .0124$$

$$\text{Log } (1.03)^{20} = .2480 = \text{log of } 1.769+$$

\$1.77 is the required valuation.

Present worth of principal.—The present worth of the principal of an investment is the principal compound discounted to the present time. Compound discount is the reciprocal of compound interest, and the values used in the preceding paragraph are repeated in the following formula for present worth:

The present worth of \$1 at compound discount for n periods at N rate is

$$\frac{1}{(1 + N)^n}$$

Present worth of coupon payments.—

Let A = semi-annual nominal rate

n = number of semi-annual interest payments

N = semi-annual net yield rate

The present worth of the aggregate of all coupons is

$$\frac{A}{N} \left(1 - \frac{1}{(1 + N)^n} \right)$$

which is the face value (1) less the present worth of the

principal $\left(\frac{1}{(1 + N)^n} \right)$ adjusted to the ratio between the

nominal rate the investment bears (A) and the actual yield rate which it pays (N). Obviously, if the nominal and yield rates are the same, the present value of the coupons must be the total face value of the bond less the present value of its principal.

Present worth of principal and coupons.—The present worth of both principal and coupons is the sum of the two preceding formulæ:

$$\frac{1}{(1+N)^n} + \frac{A}{N} \left(1 - \frac{1}{(1+N)^n} \right)$$

which may be reduced as follows:

$$\frac{1}{(1+N)^n} + \frac{A}{N} \left(\frac{(1+N)^n - 1}{(1+N)^n} \right) =$$

$$\frac{1}{(1+N)^n} + \frac{A(1+N)^n - A}{N(1+N)^n} =$$

$$\frac{N}{N(1+N)^n} + \frac{A(1+N)^n - A}{N(1+N)^n} =$$

$$\frac{N + A(1+N)^n - A}{N(1+N)^n}$$

Assuming that a 6 per cent 30-year bond is purchased at 105; required the net yield. Substituting in the formula

$$1.05 = \frac{N + .03(1+N)^{60} - .03}{N(1+N)^{60}}$$

$$1.05N(1+N)^{60} = .03(1+N)^{60} + N - .03$$

The bonds having been purchased at a premium, it is evident the net yield is less than .03 per semi-annum. Solving by approximation, .029 may be tried.

$$1.05 \times .029(1+.029)^{60} = .03(1+.029)^{60} + .029 - .03$$

$$1.05 \times .029(1.029)^{60} = .03(1.029)^{60} - .001$$

The solution from this point will be facilitated through the use of logarithms.

<i>Left side of equation.</i>	=	<i>Right side of equation.</i>	
$\left\{ \begin{array}{l} \log 1.05 = 0.02119 \\ \log .029 = 8.46240 - 10 \\ \log (1.029)^{60} = 0.74520 \end{array} \right\}$	=	$\left\{ \begin{array}{l} \log .03 = 8.47712 - 10 \\ \log (1.029)^{60} = 0.74520 \end{array} \right\}$	- .001
$\left\{ \begin{array}{l} \log \\ 9.22879 - 10 \\ .1693 \end{array} \right\}$	=	$\left\{ \begin{array}{l} \log \\ 9.22232 - 10 \\ .1678 \\ .001 \end{array} \right\}$	- .001
.1693	>	.1668	

.028 may next be tried: (.028 — .03 = —.002)

<i>Left side of equation.</i>	=	<i>Right side of equation.</i>	
$\left\{ \begin{array}{l} \log 1.05 = 0.02119 \\ \log .028 = 8.44716 - 10 \\ \log (1.028)^{60} = 0.71940 \end{array} \right\}$	=	$\left\{ \begin{array}{l} \log .03 = 8.47712 - 10 \\ \log (1.028)^{60} = 0.71940 \end{array} \right\}$	- .002
$\left\{ \begin{array}{l} \log \\ 9.18775 - 10 \\ .1541 \end{array} \right\}$	=	$\left\{ \begin{array}{l} \log \\ 9.19652 - 10 \\ .1572 \\ .002 \end{array} \right\}$	- .002
.1541	<	.1552	

The net yield is apparently between .029 and .028 as in the first case the left side was the greater and in the second, the right was larger. The comparative equality being greater at .028, .0281 may next be tried: (.0281 — .03 = —.0019)

<i>Left Side of Equation</i>	=	<i>Right Side of Equation</i>	
$\left\{ \begin{array}{l} \log 1.05 = 0.02119 \\ \log .0281 = 8.44871 - 10 \\ \log (1.0281)^{60} = 0.72180 \end{array} \right\}$	=	$\left\{ \begin{array}{l} \log .03 = 8.47712 - 10 \\ \log (1.0281)^{60} = 0.72180 \end{array} \right\}$	- .0019
$\left\{ \begin{array}{l} \log \\ 9.19170 - 10 \\ .15549 \end{array} \right\}$	=	$\left\{ \begin{array}{l} \log \\ 9.19892 - 10 \\ .15810 \\ .0019 \end{array} \right\}$	- .0019
.1554	<	.1562	

.0282 may be tried: (.0282 — .03 = .018)

$$\begin{array}{rcl}
 \left. \begin{array}{l} \log 1.05 = 0.02119 \\ \log .0282 = 8.45025 - 10 \\ \log (1.0282)^{60} = 0.72420 \\ \hline \log 9.19564 - 10 \\ .1569 \end{array} \right\} = & \left\{ \begin{array}{l} \log .03 = 8.47712 - 10 \\ \log (1.0282)^{60} = 0.72420 \\ \hline \log 9.20132 - 10 \\ .1589 \\ .0018 \\ \hline .1571 \end{array} \right\} & - .0018 \\
 \hline & & \\
 .1569 & < & .1571
 \end{array}$$

The two sides are approximately equal and therefore .0282 is the required net yield. As it is for a semi-annual period, the annual net yield is .0564, or about 5 2-3 per cent.

Relation of present value of principal to present value of coupons.—The present value of the principal has no relation to the interest rate which the bond bears. It is the worth of the principal to-day, compound discounted at the rate the investment yields, from the date of maturity. The present worth of the coupons depends upon the aggregate amount of the payments, each of which is determined by the nominal interest rate, compound discounted at the yield rate to the present day. It may seem strange that in many bonds the present worth of the coupons exceeds the present worth of the principal. This is true of most bonds with a maturity of over twelve years, and of all bonds with a maturity of over twenty years. The more distant the maturity, the less valuable is the present worth of the principal. A striking example of this is shown in the case of the West Shore First 4's, due in 2361. The present worth of the principal of \$1,000,000 par value of these bonds is about 3 mills. Another interesting fact is that usually the present worth of the first fifteen years' coupons on a bond is more than the present worth of the principal and all the remaining coupons regardless of maturity after that time. Fifteen years is an average date, as the length of time changes according to interest rates both nominal and effective. The

present worth of a \$1,000 bond paying 6 per cent and yielding 5 per cent due in 15 years is \$1,104.63. The present worth of \$1 on this basis is:

$$\frac{1}{(1+N)^n} = \frac{1}{(1+.025)^{30}} = \frac{1}{(1.025)^{30}} = .476866$$

$$.476866 \times \$1000 = \$476.87$$

The present worth of \$1,000 principal is therefore \$476.87. The present worth of the coupons is:

$$\frac{C}{N} \left(1 - \frac{1}{(1+N)^n} \right) = \frac{3}{5/2} (1 - .476866) = \frac{6}{5} \times .523134 =$$

$$\frac{3.13804}{5} = .62776$$

$$.62776 \times \$1000 = \$627.76$$

Present worth of principal.....	\$476.87
Present worth of coupons.....	627.76
Total present worth.....	<u>\$1104.63</u>

Value of stock subscription rights.—When a company increases its capital stock, old stockholders are usually permitted to subscribe for the new stock before it may be offered generally. This privilege is valuable when the subscription price is less than the market price of the stock. At one time stockholders of Westinghouse Electric were permitted to subscribe to new shares of \$50 par value at \$52.50 per share although the market value was about \$60 per share. The value of the right received by each holder of one share of old stock was not \$7.50, however, because (1) stockholders had to own five shares of old stock to subscribe to one share of new stock and (2) the market price of the stock would decline after the issue of the additional shares.

The value of the privilege accorded to a holder of one

share of old stock may be computed by a formula wherein X is the required value, P is the difference between market and subscription prices, and R is the percentage rate of increase, viz.,

$$X = \frac{P \times R}{R + 1}$$

As P is \$7.50 (\$60—\$52.50) and R is 20% (1 new share for 5 old shares) then

$$X = \frac{\$7.50 \times 20\%}{20\% + 1} = \frac{\$1.50}{1.20} = \$1.25$$

The calculation may be shown differently:

5 old shares at \$60 each	= \$300.00	asset value
1 new share at \$52.50	= 52.50	asset value
6 shares (new value)	= 352.50	
1 share (new value)	= 58.75	
1 share (subscription price) ..	= 52.50	
Value right to buy one new share..	= \$ 6.25	
(But this required possession of 5 old shares)		
Value of right to buy 1-5 new share..	= \$ 1.25	

The basis for the quotation of rights is not the value of the privilege of buying one new share but rather is the value of the privilege afforded to the holder of one old share.

Mathematics of convertible securities.—The determination of conversion parities on convertible securities is usually a simple matter. If the conversion is par for par the operation is profitable when the market price of the "conversion" security exceeds that of the convertible se-

curity. If the conversion ratio is not par for par but, for example, 105 in bonds for 100 in stock, then, the relative prices must vary in proportion, to offer a profit. The stock must be quoted at least five per cent higher than the bonds if the ratio is as stated.

All companies do not handle conversions in the same manner. Some charge the investor the accumulated income on the new security and credit the accrued income on the converted security. Others make no adjustment whatever and simply deliver the new security for the old. This hardly seems fair to the investor who may be converting a bond on which interest for five months has accrued.

Life tenant and remainderman.—In connection with the bond accounts of trust estates, the question of the relative interests of life tenant and remainderman frequently arise. Certain funds may be placed in the form of a trust whereby the income goes to one party, known as the life tenant, after whose death the principal is paid to another party known as the remainderman. It is accordingly to the interest of the life tenant to derive a maximum of income from the trust and, of the remainderman, to make certain the principal is kept intact. A bond which is valued at par at the beginning of the trust involves no difficulties as the entire interest is paid to the life tenant. A bond valued at a premium must be amortized in order that at maturity the par value plus the amortization may equal the original value. In such a case the life tenant should not receive the full interest paid by the debtor, but the net amount after providing for amortization. A bond valued at a discount is subject to income from accumulation as well as from interest. Theoretically, the life tenant should receive the benefit of such accumulation, but in practice it would involve many difficulties, and is seldom car-

ried out. In fact, the entire matter of adjustment of amortization and accumulation between life tenant and remainderman is rather an open question. The New York courts have shown a tendency to regard the life tenant as entitled to income irrespective of amortization charges, especially if the trust provision specifies that all income is to go to the life tenant.

Extra dividends paid on stock held in such a trust necessitate careful accounting adjustments. The fundamental basis is that the valuation of the principal shall be kept intact, all remaining income accruing to the life tenant. To illustrate: *A* died in 1915 leaving \$1,000,000 stock in corporation *H*, in trust to *B* for life, after which the principal goes to *C*. The corporation pays regular dividends of 6 per cent, but in 1919 distributed a 50 per cent dividend. What proportion of this distribution goes to each party? Assume the balance sheets of the *H* Corporation were as follows:

1915			
Assets	\$8,000,000	Liabilities	\$3,000,000
		Capital	4,000,000
		Surplus	1,000,000
	\$8,000,000		\$8,000,000
1919			
Assets	\$15,000,000	Liabilities	\$8,500,000
		Capital	4,000,000
		Surplus	2,500,000
	\$15,000,000		\$15,000,000

In 1915, at the beginning of the trust, the \$1,000,000 in stock amounted to one-fourth of the total, and was therefore entitled to a 25 per cent interest in the surplus on hand

at that time which amounted to \$1,000,000. The valuation of the stock in the trust was consequently \$1,250,000, which valuation must be kept intact for the remainderman. After the payment of the 50 per cent cash dividend in 1919, the balance sheet of the corporation appeared:

Assets	\$13,000,000	Liabilities	\$8,500,000
		Capital	4,000,000
		Surplus	500,000
	\$13,000,000		\$13,000,000

The valuation of the \$1,000,000 par value of stock is now but \$1,125,000 ($\$1,000,000 + \frac{1}{4}$ of \$500,000) showing a depreciation of \$125,000 which must be offset by a charge against income. The dividend of 50 per cent paid on the \$1,000,000 stock held in the fund amounted to \$500,000, of which \$125,000 is retained to protect the corpus or original value of the principal, and the remaining \$375,000 is paid to the life tenant.¹

Basis of bond accounts.—Four fundamental rules have been accepted as forming the proper basis of bond accounting from the investor's standpoint:

1. Neither original cost nor ultimate par is a proper permanent basis, but the bond should be entered at cost, which is a fact, and should go out at par, which is another fact.

¹“(1) Ordinary dividends, regardless of the time when the surplus out of which they are payable was accumulated, should be paid to the life beneficiary of the trust.

“(2) Extraordinary dividends, payable from the accumulated earnings of the Company, whether payable in cash or stock, belong to the life beneficiary unless they encroach in whole or in part upon the capital of the trust fund, as received from the testator or maker of the trust or invested in stock, in which case such extraordinary dividends should be returned to the trust fund or apportioned between the trust fund and the life beneficiary in such a way as to preserve the integrity of the trust fund.” *In re Osborne* (209 N. Y., 450.)

2. During the interim, the reduction (or increase) from cost to par should take place gradually by the processes of amortization and accumulation at the basis rate of true interest.

3. Information should be obtained of the fluctuations in market value, but these should not be carried into the accounts as actualities.

4. A list of market values should accompany the balance sheet of any concern which may be subject to liquidation for the purpose of showing its ability to liquidate.¹

These rules are logical and are in general use in investment accounting. The application of the first two principles involves interesting technique, employing to a large extent the mathematics previously described. A practical illustration will probably best serve as an explanation.

On August 1, 1924, a \$1,000 bond of the Excelsior Company, interest at 6 per cent, is purchased to yield $4\frac{1}{2}$ per cent. Maturity date is May 1, 1933; interest dates, May 1 and November 1. The price of the bond is \$1107.52 and the accrued interest (May 1 to August 1) is \$15.00, making the total expenditure \$1122.52, which appears in the investor's ledger:

EXCELSIOR 6's		
Aug. 1, 1924.....	1107.52	
ACCRUED INTEREST		
Aug. 1, 1924.....	15.00	

On November 1, 1924, semi-annual interest amounting to \$30 is received, of which \$15 covers the accrued interest previously paid, and closes that account. The remaining \$15 covers three months' interest on the investment \$1107.52 at the basis-rate of $4\frac{1}{2}$ per cent net yield, or

¹From "Proper Basis of Bond Accounts," Charles E. Sprague.

\$12.46 and \$2.54 to cover three months' amortization of premium. The ledger accounts now show:

EXCELSIOR 6's			
Aug. 1, 1924, value....	1107.52	Nov. 1, 1924, amortiza- tion	2.54
		Nov. 1, 1924, new value	1104.98
	<u>1107.52</u>		<u>1107.52</u>
Nov. 1, 1924, value....	1104.98		

INTEREST EARNED	
	Nov. 1, 1924..... 12.46

ACCRUED INTEREST	
Aug. 1, 1924.....	15.00 Nov. 1, 1924..... 15.00

During the remaining life of the bond the valuation of the bond would be gradually reduced at each interest date in accordance with the following schedule:

Date	Investment Value after Amortization	Total Interest	Net Interest	Amortiza- tion
Aug. 1, 1924	\$1107.52	—	—	—
Nov. 1, 1924	1104.98	\$15.00	\$12.46	\$2.54
May 1, 1925	1099.84	30.00	24.86	5.14
Nov. 1, 1925	1094.59	30.00	24.75	5.25
May 1, 1926	1089.22	30.00	24.63	5.37
Nov. 1, 1926	1083.73	30.00	24.51	5.49
May 1, 1927	1078.11	30.00	24.38	5.62
Nov. 1, 1927	1072.37	30.00	24.26	5.74
May 1, 1928	1066.50	30.00	24.13	5.87
Nov. 1, 1928	1060.49	30.00	23.99	6.01
May 1, 1929	1054.35	30.00	23.86	6.14
Nov. 1, 1929	1048.08	30.00	23.73	6.27
May 1, 1930	1041.66	30.00	23.58	6.42
Nov. 1, 1930	1035.10	30.00	23.44	6.56
May 1, 1931	1028.39	30.00	23.29	6.71
Nov. 1, 1931	1021.52	30.00	23.13	6.87
May 1, 1932	1014.51	30.00	22.99	7.01
Nov. 1, 1932	1007.33	30.00	22.82	7.18
May 1, 1933	1000.00	30.00	22.67	7.33

It will be noted that the investment values are stated after amortization. For example, the investment value on November 1, 1928, appears as \$1060.49. Opposite this amount it is shown that the net interest received on that date is \$23.99, which is at the rate of $4\frac{1}{2}$ per cent per annum on \$1066.50, the value of the investment on May 1, 1928, which is the beginning of the six months' period ending November 1, 1928. The difference between \$30, the actual interest received on November 1, 1928, and \$23.99, the net interest upon the investment cost, is \$6.01, which is the amount of amortization accruing during the period. Since the investment value was \$1066.50 on May 1, 1928, and \$6.01 of the cost is to be amortized during the succeeding six months, the cost of the investment on November 1, 1928, is therefore \$1060.49 after amortization.

The same principle applies to accumulation on a bond purchased at a discount. Assume a 4 per cent bond maturing in $4\frac{1}{2}$ years is purchased at 96.6, netting 4.85 per cent, date of purchase, January 1, 1920; interest dates, January 1 and July 1:

<i>Date</i>	<i>Investment Value after Accumulation</i>	<i>Interest Received</i>	<i>Accum- lation</i>	<i>Total Income</i>
Jan. 1, 1920	\$966.00			
July 1, 1920	969.43	\$20.00	\$3.43	\$23.43
Jan. 1, 1921	972.94	20.00	3.51	23.51
July 1, 1921	976.53	20.00	3.59	23.59
Jan. 1, 1922	980.21	20.00	3.68	23.68
July 1, 1922	983.98	20.00	3.77	23.77
Jan. 1, 1923	987.84	20.00	3.86	23.86
July 1, 1923	991.80	20.00	3.96	23.96
Jan. 1, 1924	995.85	20.00	4.05	24.05
July 1, 1924	1000.00	20.00	4.15	24.15

CHAPTER XXII

MECHANICS OF PURCHASE AND SALE

The transfer of stock.—Stock certificates are negotiable instruments and ownership may be readily transferred. Each certificate is made out in the name of the owner, who may transfer his title through blank endorsement or power of attorney.

Each certificate is numbered, states the total capitalization and the par value of each share, the number of shares the certificate represents, the name of the owner, the signature of the president and treasurer of the company, and also the authentication by the registrar and transfer agent. On the reverse of each certificate usually appears a blank form of power of attorney with a bill of sale and power of substitution as follows:

For value received hereby sell, assign
and transfer into
.....shares of the capital stock
represented by the within certificate and do hereby irrevocably
constitute and appoint
Attorney to transfer the said stock on the books of the within-
named company with full power of substitution in the premises.
Dated 19..

In presence of

Notice: The signature to this assignment must correspond with the name as written upon the face of this certificate in every particular without alteration or enlargement, or any change whatever.

The company record.—The certificate book kept by the company resembles a check book to the extent that attached to each certificate is a stub on which is entered the date, number of shares, the name of the owner, and the name of the former owner if not an original issue, before the certificate is issued. When the certificate is returned to the company for transfer, it is cancelled and re-attached to the original stub. A stock record book is kept in which all transfers and issues are recorded. A third book containing a list of all stockholders and the individual holdings is also used.

Formality of transfer.—A stockholder who desires to sell his stock will usually deliver it to his broker with instructions to sell. The stock is in the name of the owner and may be either endorsed in blank, that is, the owner may sign his name across the back, or transfer to the broker through the power of attorney. The second method is preferable because, in the event of loss or theft, a blank endorsement may cause the stock to reach an innocent purchaser for value whose claim to the stock will be upheld. The broker upon selling the stock ascertains the name of the party in which the stock is desired and sends the old certificate to the company which cancels it, issues a new one, and changes the company records in accordance. The transfer usually requires some little time as the new certificate must be authenticated by the transfer agent and registrar. The function of the transfer agent is to relieve the company of the details of transfers and also to provide a quick method of transfer in New York City on exchange stocks. The function of the registrar is chiefly to prevent the issue of any stock in excess of the company authorization. The transfer agent and registrar must naturally be independent of the corporation.

Orders to buy and sell.—Orders to buy and sell stocks may be placed with a broker in nine different ways:

1. At the market. The broker will buy or sell at the market price as soon as possible after receiving the order.

2. At a specified price. Pennsylvania Common is selling at $71\frac{7}{8}$ and the client will instruct his broker to buy at $71\frac{1}{2}$. The broker must not pay over $71\frac{1}{2}$ although he will secure a lower price if possible.

3. On the happening of an event. This is almost pure speculation. The event may be anything from the declaration of war to a rainfall in the wheat regions.

4. At a specified price, operative until dividend time. Orders are placed to buy and sell, operative until the dividend for the ensuing period is announced.

5. Day orders. All orders are considered as being good for the day only unless otherwise stated. If the order is not executed on the same day it is received, it is regarded as cancelled.

6. Good until cancelled. G.T.C. orders, as they are called, are considered as good until countermanded.

7. Specified time. Orders may be given to buy or sell at a specified time. These orders may or may not be regardless of price.

8. Discretionary orders. An order may be placed involving a certain amount of discretion on the part of the broker, which may pertain to the question of buying or selling, and to the stock or price. Most brokers will not accept discretionary orders.

9. Stop-loss orders. Orders may be placed for the sale of a certain stock after it has declined a certain number of points. United States Steel may be purchased at 150 and move upwards. After passing 160, the customer may instruct his broker to sell the stock thereafter on a decline

of three points. If the stock advances to 165 and then recedes, the broker will endeavor to sell as soon as possible after it touches 162.

Price includes next dividend.—Except in the case of guaranteed stock, on which the price does not include the accrued dividend, which therefore is added separately, the quoted price on stocks includes any accrued dividend. Other things being constant, the price of a stock paying 3 per cent quarterly on January 1 and April 1 would be 100 on January 2; 101 on February 1; 102 on March 1; 103 on April 1, and 100 again on April 2. The fact that the market price almost invariably drops the amount of the dividend on ex-dividend dates shows the effect of the accruing dividend.

The transfer of bonds.—Similarly to stocks, bonds are also negotiable instruments. Unlike stock, however, bonds may be payable to bearer, thus facilitating transfer to a marked degree, the delivery of the bond constituting full transfer. Registered bonds, however, must be transferred in a manner very similar to stock.

Interest payments on coupon bonds are provided through coupons which are usually attached to the bond in separate sheets. Interest payments are generally semi-annual and two coupons are provided for each year payable on specified dates. Each coupon is detached as it falls due and may be deposited in a bank for collection similar to a check.

Registered vs. coupon bonds.—Coupon bonds are payable to bearer and are transferable through simple delivery. Registered bonds are payable only to the party whose name appears on the bond and may be transferred only by returning the bond to the company and having another issued in the name of the new owner. In view of the fact that this involves a certain amount of inconvenience, coupon bonds are slightly more marketable than

registered and often sell at $\frac{1}{8}$ to $\frac{1}{4}$ of a point higher. Registered bonds are preferable to the average investor, however, as he is protected against loss or theft.

Most registered and coupon bonds are interchangeable. This means that at the option of the owner a registered bond may be converted into a coupon bond, and vice versa. The mechanics of such conversion is simple. The owner has but to send the bond he has by registered mail to the corporation with the request that it be converted as desired. Many companies make a nominal charge, usually one dollar, for this service.

Accrued interest on bonds.—Practically all bond prices are a certain amount "and interest." This means that the total cost of the bond is the specified price plus the interest which has accrued since the last date of interest payment. This is no more than fair. The owner of the bond is entitled to interest on his investment as long as he holds it and the new owner's interest should begin as of the date of purchase. It would be unreasonable to expect the company to adjust this interest on all transfers of its bonds, so the universal method is to require the new purchaser to pay to the seller the amount of accrued interest. The purchaser is reimbursed when he receives interest for the full period at the next interest date. On such adjustments, interest is computed on the 360 day basis, the period from a certain date in one month to the same date in the following month, being considered 30 days. To illustrate: a \$1,000 six per cent bond, interest dates January 1 and July 1, is quoted 96 and interest on August 16; required the total cost. July 1 to August 1 is 30 days, and August 1 to August 16 is 15 days, making a total of 45 days' accrued interest. The interest on \$1,000 at 6 per cent for 45 days amounts to \$7.50. The price being 96, the bond will cost \$960 plus \$7.50 accrued interest, or \$967.50.

Certain bonds are sold "flat," that is, the quotation is the full price, interest being disregarded. Bonds on which the interest is in default are quoted in this manner. Income bonds are usually quoted flat because of the nature of the underlying contract which makes interest payment contingent rather than obligatory.

Making payment for securities.—An order to purchase securities may have been given in one of three ways: to a salesman, by mail, or in person at the office of the financial house, which last transaction is termed "over the counter." The first and third are quite simple, payment being made on delivery of the securities. A purchase by mail requires more detail. If the buyer is purchasing stock or registered bonds, he should remit in advance to the financial house funds, payable in the city where the house is located, sufficient to cover the entire transaction. A resident of Memphis purchasing in St. Louis should remit by a St. Louis draft instead of a check on his Memphis bank. If the purchase covers bearer or coupon bonds, payment may be arranged through the local bank as the financial house will ordinarily send the securities with sight draft attached. Stock and registered bonds may not very well be sent in this manner, as the moment a broker registers a bond or transfers a stock, he loses all title and interest. Securities which have been paid for in advance of purchase by out-of-town buyers are delivered either by express or registered mail insured.

Charges for sale and purchase.—The commissions charged for transactions on the New York Stock Exchange follow:

STOCKS

<i>Market price per share</i>		<i>Commission per share</i>
\$1 and above but under \$10.....		7½ cents
10 " " " " 25.....		12½ "
25 " " " " 50.....		15 "
50 " " " " 75.....		17½ "
75 " " " " 100.....		20 "
100 " " " " 200.....		25 "
200 and over.....		30 "

(Plus 5c for each \$50 or fraction thereof beginning at \$250).

BONDS

Commission.....	\$2.50 per \$1,000 par value
(Special rates on U. S. bonds and short term issues)	

The majority of bond transactions are net, that is, without commission charge, as they are effected off the exchange, and the houses act as dealers rather than agents.

Stock transfer laws.—A uniform Stock Transfer Law has been enacted in Massachusetts, Pennsylvania and New York. Transfer laws in effect in other States are very similar. The main provisions are outlined in the following paragraph.

Title to securities may be transferred by delivery of the certificate endorsed in blank, or attached to a written assignment, or by a new certificate in the name of the purchaser. If the endorsement was secured through fraud or duress, or if delivery was made without the authority of the owner, possession may be reclaimed and the transfer rescinded provided the certificate has not come into the possession of a third party who has parted with value to obtain it and who is ignorant of any illegality in the transaction. Lack of consideration does not make an endorsement ineffectual. Every person who transfers a certificate for value warrants: (1) that the certificate is genuine; (2) that he has a legal right to transfer it, and (3) that he has no knowledge of any defect in the validity of the certificate.

Lost or destroyed certificate.—In cases where certificates of stock and registered bonds are lost or destroyed, the issuing corporation will generally issue a duplicate, provided the owner files a bond guaranteeing the company against possible loss arising from the transaction.

Rules of delivery.—The constitution of the New York

Stock Exchange provides regulations to govern the delivery of securities traded in on that market. A summary of the more important rules follows.

Stocks: The signature on the assignment must correspond in every way without alteration or enlargement, or any change whatever, with the name written on the face of the certificate. A certificate for more than 100 shares is not a good delivery. Powers of attorney signed by trustees, guardians and infants are not a good delivery. Stock sold "for cash" must be delivered by 2:15 p. m. on the same day; if sold "in the regular way," delivery must be made by 2:15 p. m. the following day.

Bonds: Bonds which bear any endorsement not properly pertaining to them as a security are a good delivery only as "Endorsed Bonds." Coupon bonds must be delivered in denominations of \$1,000 or \$500. Registered bonds must be delivered in certificates not exceeding \$10,000. Coupon bonds must have all the proper coupons attached. The time of delivery for bonds is the same as for stock.

Selecting a financial house.—The selection of a reliable financial house is one of the most important tasks confronting an investor. There are about five thousand different dealers in financial securities in the United States, and it may be said that all are not equally desirable or reputable. Extreme care should therefore be exercised in making a choice. Perhaps the most convenient way of determining the responsibility of any New York house is to have the local bank write to its New York correspondent for information. If the house is located outside of New York, the local bank may write to a bank in the city where the firm is situated. The fact that a house may advertise that it is a member of a certain exchange should receive scant consideration; there are many exchanges of varying responsibilities, and membership even on the New York Stock Exchange is not itself any positive guarantee of integrity.

CHAPTER XXIII

LISTED AND UNLISTED SECURITIES

Significance of listing.—Securities are said to be “listed” when they are admitted to trading on any of the various stock exchanges. Securities which are not accorded similar recognition are termed “unlisted.” A listed security is generally held to be more desirable than an unlisted one because of the greater degree of marketability that the former is believed to have. Since marketability is one of the most important qualities in an investment, an inquiry into the comparative advantages of listed and unlisted securities should prove profitable.

The stock exchanges.—Stock exchanges are associations of financial brokers whose function is to provide a market for buyers and sellers of securities. Two purposes are served. A constant market is available for those who desire either to purchase or to dispose of any of the listed securities. This function of providing a ready market for securities is the chief service of the exchange. A secondary function is the helping of corporations to raise new capital by opening the facilities of the exchange to transactions in the new securities.

Members of the stock exchange are usually brokers and not dealers in securities. As brokers they have nothing to buy or sell but act as agents in executing the orders of their customers. For their service, a commission fee is charged as is explained elsewhere in this volume. This practice is in marked contrast with that of the investment banking

houses which usually act as dealers and resell to their customers securities which the house already owns.

Listing requirements.—The question may at once arise as to why all securities are not listed on at least one exchange. Many reasons exist for this condition. In the first place, listing is not desired by many companies, the securities of which are closely held by a small group who have no wish to sell. In the second place, listing may be desired, but the policy of the company may be contrary to a requirement that balance sheets and income statements be published yearly. In the third place, the outstanding volume may be too small to assure a constant market. In the fourth place, the enterprise may be still in the development stage.

The actual requirements, as illustrated in the case of the New York Stock Exchange, are to facilitate legitimate trading. (1) The buyer should have information upon which to base an intelligent estimate of the value of the security. The requirement is that each company which enjoys listing must publish a balance sheet and income statement once each year. (2) The buyer should be assured as far as possible of a relatively active market. The requirement is that enough shares must be outstanding and sufficiently distributed to promise such a market. (3) The buyer should be assured that the company is managed by men of integrity and that it is not a "fly-by-night" enterprise. The requirement is that each company must submit its history and a list of executive officers. (4) The buyer should be assured of convenience of transfer of ownership of securities. The requirement is that each company must maintain a local registrar's office and transfer agency. (5) The buyer should be protected against counterfeit securities. The requirement is that listed securities must be printed from engraved steel plates by an approved company.

Listing does not imply guarantee.—The listing of

any security in no sense implies a financial guarantee of the exchange. In fact, the exchange does not guarantee the accuracy of the information which is submitted in accordance with its requirements. The exchange endeavors to safeguard the security-purchase by placing in his possession the information he would normally require before purchasing. With this information the buyer may decide for himself whether or not he should purchase.

In somewhat like manner, the stock exchange house which receives an order to buy or sell certain securities, feels no sense of responsibility for the outcome of the transaction. The commission which is received is much too small to warrant the exhaustive research which is usually necessary before intelligent opinion may be offered as to the true value of any security. Even when the stock exchange house may recommend certain securities which it does not own, the sense of responsibility is not great as it is tacitly understood to be a surface recommendation only.

A distinct difference should be noted between the listing requirements of a stock exchange and the purchasing requirements of an investment banking house. The investment bankers buy securities to resell to their customers. They want to avoid loss to themselves as well as to their customers. To this end they investigate carefully all aspects of the company. The financial statements are carefully checked, to assure the presentation of true earning power, by auditors of the house. Property and inventory accounts are appraised by independent parties. Operating and administrative methods are studied. Markets are analyzed. Future prospects are considered. The type of security, the maturity, the interest rate, and many other features are discussed. The final decision to buy is reached only after the house decides the enterprise is safe enough for the permanent commitment of its own funds. The securities are

then offered to investors bearing the unqualified approval of the house. Should the securities eventually prove poor, the house would feel a sense of direct responsibility and would go far to help the investor recover what loss he might have sustained.

Advantages of listing.—The object of listing securities is to gain marketability. Other advantages exist as are stated in a preceding paragraph, but the chief aim is to make the security more desirable by increasing its market. A listed security can be bought or sold on the exchange where it is listed. That point is where buyers and sellers are accustomed to meet, where the value of the security is best known, and where the most favorable price is obtainable. Moreover, if one is not professionally interested in buying or selling, one can keep in touch with the market by observing the prices at which the security is being sold as reported in the transactions of the exchange. If he is an owner, a downward trend in the price may warn him that an exchange is desirable, and an upward trend may enable him to realize a profit if he believes the movement is temporary. If one is not an owner, repeated publication of current prices acts as a constant invitation to buy, particularly if the price is attractive.

Listing adds to the collateral value of a security. In making loans, banks prefer as collateral those securities which are readily marketable. The bank is not interested in the security as an investment but rather as a pledge that the loan will be paid. The chief consideration of the bank is the relative convenience with which the collateral may be converted into cash if the loan is not paid. Bankers usually have not the time nor facilities for investigating the intrinsic value of each security offered as collateral and therefore accept the market quotation as their chief criterion. Listed securities enjoy a distinct advantage in this regard.

Listed stocks and bonds.—Listing is far more valuable in the case of stocks than of bonds. It is the custom to buy and sell stocks through the Exchanges; it is not nearly so customary in the case of bonds. Practically all the stock bought and sold in New York is through the exchanges; less than ten per cent of the bonds bought and sold are covered in Exchange transactions. Even at this, about one-half of the stocks listed on the New York Stock Exchange are not represented in a full year's transaction and even the busiest days have much less than one-half of the listed stocks included. Over 1000 stocks are listed and transactions in 400 different issues are construed to represent a most active day. Recently a transaction was reported in a certain stock which was the first sale on the Exchange since 1878. The great bulk of the transactions is confined to relatively few securities. A spread of five full points (forty times the minimum of $\frac{1}{8}$ of one point) between the bid and asked prices is not regarded as unusual for a listed stock. Such spreads have been known to exceed 100 points. Reference to the prices on inactive listed securities as reported in the periodicals will bear out this point. And it should be remembered that such compilations include only those securities which are usually dealt in but which were inactive that day. If a similar compilation were possible of the really inactive listed stocks, the evidence would be striking.

Bond listing is less advantageous than in the case of stocks. Over 1200 bonds are listed on the New York Stock Exchange, of which less than 400 provide over 95 per cent of the transactions. In other words, 800 listed bonds are dealt in so seldom that their aggregate volume is less than 5 per cent of the total. Moreover, as before stated, the stock exchange transactions in bonds represent a very small part of the total for the city.

Unlisted securities.—Many securities which are not listed on any exchange have an active market often greater than that of certain listed securities. As has been shown, listing facilitates the making of a market but in no way guarantees such a development. On the other hand, unlisted securities must create their own market and often succeed in so doing. Transactions in unlisted securities are known as “over-the-counter” sales inasmuch as they usually take place over the counters of the various bond houses.

Investors generally recognize that listing a security does not make it automatically better than one unlisted. The best informed buyers purchase bonds irrespective of listing. Of course, no intelligent investor buys securities of a company concerning which he lacks adequate information. But sufficient information is usually obtainable of the worthwhile unlisted securities, especially in the public-utility field. Very few bonds in the State, municipal, and public-utility classes are listed, but such securities rank high as investments.

The best market for an unlisted security is the investment banking house which put out the issue. Not only do they feel a sense of responsibility for the integrity of the issue but also for a fair market. They know owners and prospective owners better than anyone else. In addition to these houses, are other houses which specialize in unlisted securities. So active is the market for certain unlisted securities that quotations appear regularly in the daily papers.

CHAPTER XXIV

READING THE FINANCIAL PAGE

Financial intelligence.—It is safe to say that every newspaper in the country prints at least some financial news. The amount of space devoted to this purpose will range from practically the entire issue as in the case of the *Wall Street Journal*, to a part of a column in the rural weeklies. The information may completely cover all the developments in the realm of finance, or it may simply consist of the quotations of the most active securities on the New York Stock Exchange. In every section there are local securities which are of interest chiefly in that vicinity and concerning which information is rarely found elsewhere. In addition to the financial information to be found in the daily papers, there is a vast fund of knowledge to be acquired from the financial departments of other periodicals including both weeklies and monthlies, a list of which appears in the Chapter, "Sources of Information." The purpose of this chapter, however, is to explain the financial pages of a representative American newspaper which disseminates market information as part of its general news of world events, and not as its chief function.

Metropolitan newspapers.—Since New York is the financial center of the United States, it is only natural that the Metropolitan dailies should contain excellent financial pages. It is no disparagement to New York, however, to say that certain newspapers in other cities especially Boston,

Philadelphia and Chicago, provide financial intelligence which warrants favorable comparison. The evening edition of practically all the Eastern papers contains the market news of the same day and consequently has an advantage over the morning issues which contain the happenings of the day before. Because speed is essential, the evening papers usually do not attempt to offer the same financial service as the morning editions.

Nature of information.—The information provided by the daily papers may be divided into two classes—statistical and general. The statistics include the quotations on the New York Stock Exchange, the Produce Exchange, and the Curb market in New York City; the quotations on out-of-town markets and also of active unlisted securities; the rates in the money market and for foreign exchange; quotations in the various commodity exchanges; as well as information which is issued at regular intervals such as bank statements and clearings, imports and exports, and other interesting figures. The general information consists of comment on financial developments, statements by officials of various companies, extracts from company reports, opinion on future possibilities and notes of general interest. The financial man is more interested in the statistics because they afford an unbiased source of information from which a good opinion may be formed. Statistics are facts and facts are incontrovertible.

The general information is not so reliable. At best, it merely represents the opinion of the writer of the article. Newspaper men work under pressure and accomplish wonders under the conditions. Their opinions on financial matters should be carefully read and respected, but in no sense accepted as final. The ordinary individual who becomes interested in a special security and follows it closely is often in a better position to pass judgment upon its merits

than is the writer of broad experience who must perforce give that special security but hasty consideration when he discusses it. To the credit of the profession of journalism let it be said that rarely if ever does bias enter into any comment which appears in its columns by its own writers. Almost invariably the information is candid and impartial, and actuated by a desire to be of assistance or interest to the reader. The statement which appears almost universally in financial advertising is impliedly at the head of every page of financial intelligence and may be paraphrased as follows: "The information contained on this page is not guaranteed; it has been compiled from sources which we regard as trustworthy, and we have every reason to believe it correct."

Stock quotations.—The most interesting feature of the financial page is the statement of prices on the New York Stock Exchange. A representative sales list is here shown.

Closing		Div. in \$	Sales	Name	Open- ing	High- est	Low- est	Clos- ing	Net change
Bid	Ask								
127½	128	5	20,400	Am. Woolen Co.	121½	130	121½	127¾	+ 6¼
122⅞	123	..	60,400	Baldwin Locomo- tive.....	123½	124¼	119¼	120	- 3
108	108¼	5	121,300	Bethlehem Steel B.	102¾	114½	101	108	+ 5
143½	144	6	54,200	Crucible Steel Co. ex. div.....	135	149	134½	143¾	+ 6
220	226	12	4,700	Lorillard, P., To- bacco.....	217	227	215¼	225¼	+ 11⅝
45¼	45¾	3	4,300	Pennsylvania R.R.	45¾	45⅞	45⅞	45⅞	+ ⅛
22	23	..	6,300	Saxon Motor.....	24¼	24¾	21½	22	- 2
11⅝	11¾	..	1,300	Wheeling & Lake Eric.....	11⅝	11⅞	11½	11⅝	+ ⅝

The two columns to the extreme left give the closing bid and asked quotations. Quotations on the stock exchanges are in dollars and "eighths," and represent the price of a single share. A quotation of 112⅜ on United States Steel means \$112.37½ for a single share of stock. Fluctuations in quotations cannot be less than ⅛ of a point, equivalent to 12½ cents per share. There are but seven possible quo-

tations between two even amounts, for example, 112, $112\frac{1}{8}$, $112\frac{1}{4}$, $112\frac{3}{8}$, $112\frac{1}{2}$, $112\frac{5}{8}$, $112\frac{3}{4}$, $112\frac{7}{8}$, 113.

In the case of American Woolen, $127\frac{1}{2}$ was offered for the stock by a prospective buyer and it was offered for sale at 128 by a prospective seller. As the unit of trading is 100 shares, the bid and asked quotations were understood to be for that quantity. An offer to buy or sell in a larger quantity would not necessarily be at the same quotation. An order to buy 5,000 shares will not normally be executed at one price. If the asked price is 128, it may represent the offer of but 100 shares; a price of $128\frac{1}{2}$ might only bring out 500 more shares; 129 might add 1,000 more; and the price of the last lot might reasonably be around 133. The same principle applies to selling. The market is very keen to judge supply and demand and the advantageous execution of large orders requires no little skill on the part of the broker. Strange to say the bid and asked quotations at the close of one day may not coincide with similar quotations at the opening on the following day. Over-night events may change the entire complexion of the stock. The announcement in December, 1917, that the Government would take over the railroads on a guaranteed basis caused rails to be quoted at a much higher asked price on the following day than the closing quotation on the preceding day.

The difference between the bid and asked price is called the "spread" and usually reflects the market activity of the stock. Since the minimum variation in quotations is $\frac{1}{8}$ of a point, the minimum spread between bid and asked prices will be one-eighth. Such a spread is shown in the instance of Baldwin Locomotive where the bid is $122\frac{7}{8}$ and the asked is 123. The total sales of this stock shown in the fourth column bears out the inference that the small spread reflects an active market. The spread widens as the market

becomes less active. Lorillard Tobacco shows a spread of 6 points, 220 bid and 226 asked. The prospective trader in Baldwin knows almost exactly what the price will be but the trader in Lorillard cannot tell within 6 points. A spread of 6 points is by no means uncommon. Central of New Jersey shows a spread of 20 points on this same day; Lackawanna, $7\frac{1}{2}$, and International Paper Preferred, 10. General Motors Common was at one time¹ 510 bid, 875 asked—a spread of 365 points.

The third column from the left shows the annual dividend in dollars. This is equivalent to the per cent only when the stock has a par value of \$100 per share. Pennsylvania Railroad pays \$3 per year on a par value of \$50 which is equivalent to 6 per cent. Quoting dividends in dollars is better practice than in percentages which are misleading on stocks with par values different from \$100. The yield on a stock is readily obtained by dividing the dividend in dollars by the cost price.

The fourth column gives the number of shares sold. Since the unit is 100 shares, the sale of that number represents a single transaction. From the table, it is impossible to determine the number of transactions when the sales are over 100. The number of shares traded in affords about the best line on the activity of a stock. In combination with the bid and asked spread the number of shares sold enables one to judge quite accurately the relative marketability. The total number of shares of all stocks sold daily is compiled and shown at the head of the table in addition to the number of sales for the same day on the two previous years and also for the total sales to date for the three years. This affords an interesting means of comparing the relative activity of the market as a whole.

¹ November 14, 1916.

The fifth column gives the name of the stock. The company name is given, usually abbreviated to save space. Unfortunately the abbreviations are so short, many times mere initials, that it is often difficult for anyone but a specialist to recognize the stock. An example is AGWI, standing for Atlantic, Gulf and West Indies Steamship Company. The names are arranged alphabetically, however, which simplifies even the abbreviations. If no abbreviation follows the company name, common stock is understood. Special abbreviations are "pf" for preferred stock; "deb" for debenture stock, "ctfs" for certificates; "rts" for rights. "Ex-div" represents "without dividend," meaning that the next dividend is reserved for the seller; "ex-rights" means that certain rights appertaining to the stock, such as the privilege of subscribing to new stock at par, which have previously been announced, are reserved by the seller.

The first column to the right of the stock shows the opening price. This does not mean the opening bid or asked price, nor does it mean the price at which the stock was sold when the Exchange opened. What it does represent is the price paid for the stock at the first transaction in that stock on the particular day. The sale may not have transpired until well in the afternoon, although the Exchange opened at 10 A. M.

The second column to the right gives the highest price at which any transaction took place in that stock that day. It may or may not have been the opening or closing price.

The third column shows the lowest price in the same manner as the second shows the highest.

The fourth column gives the price at which the last transaction of the day in that stock took place. The same theory obtains as to the opening price and in the same manner the closing price may have been affected early in the day.

A summary of the four price columns is interesting. If only one transaction occurred during the day, the price at which it was effected would necessarily be the opening, high, low, and closing quotation. The fluctuation of prices during the day follows no definite order and is the despair of the business man who may try to reason logically. In ordinary commerce, if the price of a commodity at the beginning and end of a day is the same, it is assumed that the price has been constant and unchanged during the day. Yet on this day Wheeling and Lake Erie opened and closed at $11\frac{5}{8}$, with intermediate sales at $11\frac{7}{8}$ and $11\frac{1}{2}$. Again, if the opening price is 135 and the closing price $143\frac{3}{4}$, it would be reasonable to expect the sales during the day to gradually appreciate between these limits, yet under those conditions Crucible Steel sold as low as $134\frac{1}{2}$ and as high as 149. The same obstinacy is shown in the opposite direction by Baldwin Locomotive. The stock opened at $123\frac{1}{2}$ and closed at 120, but sales during the day were made as high as $124\frac{1}{4}$ and as low as $119\frac{1}{4}$.

The column to the extreme right shows the net change for the day. It represents the difference between the closing transaction on that day and the closing transaction on the last preceding day in which there were sales in that stock. It should be noted that the net change does not necessarily represent the difference between the opening and closing prices of the same day, as the opening price may not coincide with the closing price of the previous day.

The four columns on the right do not show the number of shares sold at any particular price but give rather a summary statement of the range of the prices. Some of the special financial dailies in addition to this information give a detailed list of the transactions. The following shows the

individual transactions in American Woolen on July 15, 1919,¹ which are summarized in the preceding table:

10:00 to 10:25 A.M.

200	121½
100	122
700	122¼
100	122

10:25 to 10:55 A.M.

100	122½
400	123
100	122⅝
100	121⅞
400	122
100	122¾
600	122½
300	122¾
100	122⅞
500	123
100	123¼
100	123½
100	125
100	125¾
500	125

10:55 to 11:45 A.M.

200	125
100	125¼
100	126
100	126½
700	126¾
400	126⅞
600	127
100	127½
600	127¼
100	127½
2400	127
400	127¼
600	127½
100	127¾
100	128
700	128½
500	129
100	129½

11:45 to 12:45

200	128
200	129
200	129⅞
200	129

¹ Compiled from "The Wall Street Journal."

300	129 $\frac{3}{4}$
100	129 $\frac{1}{2}$
100	129 $\frac{3}{8}$
500	130
100	129 $\frac{1}{2}$
300	129
200	128 $\frac{1}{2}$
12:45 to closing	
200	128 $\frac{1}{2}$
100	128
300	127 $\frac{1}{2}$
200	127 $\frac{3}{4}$
500	127
100	126 $\frac{3}{4}$
200	126
100	126 $\frac{1}{2}$
100	126 $\frac{3}{4}$
200	126 $\frac{5}{8}$
100	126 $\frac{1}{2}$
100	125 $\frac{7}{8}$
200	126
100	126 $\frac{1}{2}$
200	127
100	127 $\frac{1}{2}$
100	127 $\frac{3}{4}$

The keen student of market fluctuations may follow the daily market better from a record of this kind. The opening transaction was for 200 shares at 121 $\frac{1}{2}$. The strength of the market is shown in the sale of 700 shares at 122 $\frac{1}{4}$, an advance of $\frac{3}{4}$ of a point in three transactions. A slight decline to 121 $\frac{7}{8}$ about 10:30 on the sale of but 100 shares is followed by a gradual rise to 125 $\frac{3}{4}$ when an offer of 500 shares brought a drop of $\frac{3}{4}$ of a point to 125. This loss was rapidly recovered and an almost unbroken rise brought the price to 130, the highest of the day, at about 12:30. At that point, recession set in and the price declined to 125 $\frac{7}{8}$, but buying strength during the closing hour brought the price up to 127 $\frac{3}{4}$ at the close. The effect of a large selling order is shown by the sale of 2,400 shares about the middle of the day. The previous sale was at 127 $\frac{1}{2}$, the result of the gradual rise from 121 $\frac{7}{8}$. The seller of the large block of 2,400 shares was obliged to sell

at 127, a decline of $\frac{1}{2}$ a point. The price thereafter rose to 130. The decline of $\frac{1}{2}$ point on 2,400 shares represents a loss of 50 cents on each share, or \$1,200.

Inactive stock quotations.—Not all the stocks listed on the Exchange are traded in every day. The general quotations include only those of which there have been sales. Bid and asked quotations on the more active stocks which may not be traded in on any one particular day are usually shown separately as follows:

<i>Name</i>	<i>Bid</i>	<i>Asked</i>
Adams Express.....	52	54
A. G. & W. I. pfd.....	72	75
Bush Terminal.....	80	100
Kansas City Southern pfd.....	54½	56

Stock market averages.—The following tabulation is taken from *The New York Times* as of May 5, 1924, and gives in very concise manner the average quotations on 50 selected stocks and 40 bonds listed on the New York Stock Exchange:

MARKET AVERAGES

STOCKS

Yesterday's Range

	<i>High</i>	<i>Low</i>	<i>Last</i>	<i>Net Ch'ge</i>
25 railroads	62.39	61.88	62.04	+ .11
25 industrials	108.23	107.25	107.82	+ .33
50 stocks	85.31	84.56	84.93	+ .22

Daily Range of 50 Stocks

	<i>High</i>	<i>Low</i>	<i>Last</i>	<i>Net Ch'ge</i>
May 3.....	84.85	84.34	84.71	+ .20
May 2.....	85.10	84.21	84.51	+ .08
May 1.....	84.56	83.49	84.43	+ .91
April 30.....	83.84	83.08	83.52	— .12
April 29.....	84.08	83.37	83.64	— .21
April 28.....	84.44	83.42	83.85	— .65

Monthly Range of 50 Stocks

May	<u>High</u>		<u>Low</u>		Last
*1924.....	85.31	May 5	83.49	May 1	84.93
1923.....	86.67	May 31	81.25	May 22	86.10
1922.....	81.80	May 29	76.91	May 11	80.58
1921.....	73.13	May 6	67.23	May 25	67.75
1920.....	86.29	May 10	77.74	May 20	82.47

Yearly Range of Stocks

*1924.....	88.56	Feb. 4	82.26	Apr. 22	84.93
†1923.....	92.52	Mar. 6	82.95	May 7	83.49

Full Years

1923.....	92.52	Mar. 6	77.15	Oct. 29	84.15
1922.....	93.06	Oct. 18	66.21	Jan. 10	86.56
1921.....	73.13	May 6	58.35	June 21	68.50
1920.....	94.07	Apr. 8	62.70	Dec. 22	67.90
1919.....	99.59	Nov. 5	69.73	Jan. 21	89.69

DOMESTIC BONDS

Yesterday's Close

		<i>Day</i>	<i>Net Change</i>	<i>Year</i>
			<i>Month</i>	
40 issues	78.38	— .02	— .25	+ 1.33

Daily Range of 40 Domestic Bonds

May 3.....	78.40 + .06	Apr. 26.....	78.27 + .14
May 2.....	78.34 — .06	Apr. 25.....	78.13 + .02
May 1.....	78.40 + .11	Apr. 24.....	78.11 + .19
Apr. 30.....	78.29 + .04	Apr. 23.....	77.92 — .07
Apr. 29.....	78.25 — .07	Apr. 22.....	77.99 — .12
Apr. 28.....	78.32 + .05	Apr. 21.....	78.11 — .10

Yearly Range of 40 Bonds

*1924.....	78.65	Apr. 5	76.95	Jan. 2	78.38
†1923.....	79.43	Jan. 3	76.04	Mar. 27	77.05

Full Years

1923.....	79.43	Jan. 3	75.58	Oct. 2	76.71
1922.....	82.54	Aug. 22	75.01	Jan. 3	79.12
1921.....	76.31	Nov. 29	67.56	June 30	75.27
1920.....	73.14	Oct. 21	65.57	May 21	68.66
1919.....	79.05	June 2	71.05	Dec. 7	72.00

* To date. † To corresponding date last year.

An average compilation such as this is valuable to the extent that it shows the fluctuations of the market. The information is very likely to be misleading in many instances, however. The averages are not weighted to compensate for differences in market activity or in earning power. During 1918 the sales of Pennsylvania Railroad stock totaled 502,993 shares and the net change for the year was a decrease of $2\frac{1}{2}$ points. During the same period 44,092 shares of Western Pacific Railway were sold and the net change for the year was an increase of 5 points. Through the use of simple averages a consideration of these two stocks alone would show an average gain of $2\frac{1}{2}$ points. But because transactions in Pennsylvania were about twelve times as numerous as in Western Pacific, the two securities may not very well be taken on the same basis for determining the market trend. If the changes were weighed on a basis of market activity, the average change would show a loss of about 2 points instead of a gain of $2\frac{1}{2}$.

Ex-dividend table.—A list of stocks selling ex-dividend on the current and following few days is often given. The following is an example:

EX-DIVIDEND TABLE

To-day—

Electric Bond & Share, pfd.....	$1\frac{1}{2}\%$
International Nickel, pfd.....	$1\frac{1}{2}\%$
New York, Hond & Rosario Mg.....	3%
New York, Hond & Rosario Mg., distribution....	2%
Republic Iron & Steel.....	$1\frac{1}{2}\%$

Thursday—

Kelly-Springfield Tire.....	\$1.00
Kelly-Springfield Tire (stock).....	3%

Bond quotations.—Bond quotations are similar to stock quotations and are usually in points and "eights." As the average bond has a denomination of \$1,000, the quotation of $89\frac{1}{4}$ represents \$892.50. The unit of bond transactions

is a single \$1,000 bond. Liberty bonds are quoted in thirty-seconds rather than eighths owing to the very active market. The usual manner in which bond transactions are reported is as follows:

Southern Pacific cv 4s:	
5.....	85¼
6.....	85
Southern Pacific ref 4s:	
3.....	79⅝
1.....	79¾
3.....	80
1.....	79⅞
Southern Pacific 4s:	
1.....	75½
Southern Railway 5s:	
1.....	92⅞
Southern Railway gm 4s:	
1.....	65¾
1.....	65⅞
4.....	65
2.....	65½
2.....	65¾

A distinct difference from the stock quotations may be noted. The individual transactions are shown. The bond titles are abbreviated to a considerable degree. The first one listed above is Southern Pacific Convertible 4 per cent Bonds, known as the "Sopack fours." There were two transactions, one, the sale of 5 bonds at 85¼, and the other, 6 at 85. The five bonds had a par of \$1,000 each and at 85¼, the quotation in dollars was \$4,262.50. The letter *c* in connection with a bond quotation means that the sale is for immediate delivery for cash. Ordinarily, the seller has until the close of business on the following day to make delivery. The combination of the small letters *s* or *b* with some numbers such as 10 or 20 in price quotations signifies the time of delivery. "b10" means delivery at buyer's option any time within ten days; "s20" means delivery at seller's option any time within twenty days.

Curb transactions.—Certain securities which are not listed on the New York Stock Exchange are traded in on the New York Curb Market. The title no longer applies, since the trading is now conducted in an environment which compares favorably with the facilities provided on the Big Board. The Curb Market is generally regarded as a “training ground,” or “seasoning place” for securities which for one reason or another have not gained recognition as firmly established issues. Although transactions on the Curb Market are mainly in stocks, the bond section is rapidly growing in importance.

With improved operating methods, the Curb authorities have considerably advanced the reputation of the institution over recent years. Many excellent securities, notably in the public utility group, find their best market here. The greatly increased volume of trading reflects a material change in public confidence in the Curb. Issues listed thereon are no longer, *per se*, of doubtful quality.

Under the new order, Curb quotations, as reported in the daily press, are regarded as comparable to those of the New York Stock Exchange from the viewpoint of accuracy and reliability.

Produce Exchange.—A third centralized market for dealing in securities in New York has recently been provided through the establishment of a securities department by the New York Produce Exchange. The principal reason for this development was the enormous recent expansion in trading in unlisted securities in the New York market. The Produce Exchange authorities hope that as a result of their action, closer and more reliable markets will exist in those securities which are admitted to their list. It should be understood that

the three Exchanges in New York deal in distinctly different issues. Moreover, it should be recognized that literally hundreds of other issues, not listed on any of the Exchanges, are traded in daily "over the counter" by the New York investment houses.

Quotations of other exchanges.—In addition to the New York exchange transactions, the New York papers usually publish the quotations of transactions on the Baltimore, Boston, Chicago, Philadelphia, and Pittsburgh Stock Exchanges. The information is not so complete, and ordinarily comprises the number of sales, high, low, and closing prices.

Equipment bond quotations.—Equipment bonds represent securities usually issued by railroads to secure funds for the purchase of locomotives, passenger and freight cars. The bonds are generally quoted on a percentage basis as follows:

<i>Name</i>	<i>Maturity</i>	<i>Rate</i>	<i>Bid</i>	<i>Asked</i>
Baltimore & Ohio....	1924-1935	6%	5.60%	5.35%

The reason for the percentage basis is to be found in the varying maturities. Practically all equipment bonds are payable on a serial basis. The price in dollars for one of the above bonds maturing in 1929 will not be the same as for an otherwise identical bond maturing in 1932. The bid percentage is higher than the asked because it reflects a lower offering price in dollars than is asked for the bonds. The determination of the prices for the various maturities at any yield basis is a matter of mathematics and is explained in the Chapter, "Mathematics of Investment."

Short-term notes.—Short-term notes are usually issued for a term of less than ten years. Quotations on short-

term securities, however, include maturities up to fifteen years. A specimen quotation follows:

<i>Name</i>	<i>Rate</i>	<i>Due</i>	<i>Bid</i>	<i>Asked</i>	<i>Yield</i>
Standard Oil of N. Y.	5½%	May, 1933	105¾	106¼	5.55%

The yield is based upon the asked price in each instance.

Miscellaneous quotations.—Various other security quotations are given on a bid and asked basis. Practically all of these are not listed on any exchanges, and the quotations are supplied by dealers who specialize in the respective classes of securities. Such quotations are usually in groups and include the Standard Oils, Chemicals, Steel and Iron, Banks, Trust and Surety Companies, Public Utility, Tobacco, and Sugar stocks.

In addition to security quotations, the financial pages usually contain quotations of prices in the commodity markets, such as the Cotton, Coffee, Grain and Produce exchanges. Current prices for the important metals, including pig iron, copper, lead, spelter, antimony and aluminum, are also given. Unfortunately it is not within the scope of this book to explain the manner of trading in these various markets. The bases for the quotations are as follows:

METALS

Lead	5.75 (cents per pound)
Spelter (zinc)	8.25 (cents per pound)
Antimony	9.25 (cents per pound)
Quicksilver	107.00 (per flask of 75 lbs.)
Aluminum	32.00 (cents per pound)
Iron	33.00 (dollars per ton)
Silver	80.80 (cents per troy ounce)
Copper	12.50 (cents per pound)

GRAIN

Wheat	2.37 (dollars per bushel)
Corn	1.85 (dollars per bushel)
Oats	.73 (dollars per bushel)
Rye	1.57 (dollars per bushel)

MISCELLANEOUS

Coffee	19.90 (cents per pound)
Cotton	30.68 (cents per pound)
Lard	29.10 (cents per pound)
Pork	43.20 (cents per pound)

Money quotations.—The Metropolitan dailies as a rule give the rates at which money is borrowed in New York City. The rates are divided into three classes: Call, Time, and Commercial Paper. A call loan is payable on demand; a time loan at the end of a definite period; and commercial paper rate is the rate at which commercial paper such as promissory notes and acceptances are discounted. A specimen quotation follows:

MONEY RATES, MAY 5, 1924

CALL LOANS

Renewal	3½%
High	3½%
Low	3½%
Final	3½%

TIME LOANS

Mixed Collateral

60-90 days	4¼%
4, 5, 6 mos.	4¼ @ 4½%

All-Industrial Collateral

60-90 days	4¼%
4, 5, 6, mos.	4¼ @ 4½%

FEDERAL RESERVE DISCOUNT RATE

Commercial paper	4%
------------------------	----

The term "Mixed Collateral" signifies that the collateral which is pledged as security for the loan consists of various

classes of stocks and bonds. "All Industrials" signifies that the collateral consists entirely of industrial securities. At the present there is a noteworthy tendency on the part of banking institutions to eliminate any distinction between the various classes of collateral in making a loan. The rate is fixed regardless of the collateral and each loan is judged on its own merits.

Foreign exchange.—Foreign currencies are quoted in terms of equivalent value in United States money. Par of exchange depends upon relative gold content of the monetary units. The par of the pound sterling is $\$4.86\frac{5}{8}$ because the gold weight of the pound sterling is $4.86\frac{5}{8}$ times the gold weight of the dollar. Current quotations vary from par in accordance with international debits and credits arising out of trade and money transactions. The enormous declines in the value of many European currencies following the World War were due, however, to suspension of gold redemption and inflation of paper money.

Other statistical information.—The metropolitan newspapers usually print in summary form the regular reports issued by the large corporations. Ordinarily these statements are published annually, but in some cases, the United States Steel Corporation, for instance, quarterly earnings statements are issued. Railroads are required to file monthly statements with the Interstate Commerce Commissions and the information concerning gross and net earnings is summarized on the financial pages. It is the custom in publishing these reports to show the comparative figures for the preceding period and the amount of increase or decrease.

General information.—In addition to the great volume of statistical information appearing in the financial pages of the newspapers, various comment of interest is

offered to the individual who care to peruse it. To the layman, the vernacular of the street may prove difficult of comprehension, but to the reporter it is a joy untouched by fear. Here, for example, is a paragraph from a New York newspaper of July 16, 1919, concerning transactions in one of the stocks listed previously in this chapter:

BETHLEHEM B.

"Heavy operators are following much the same tactics in the standard steel stocks as they did a few weeks ago in the specialties—taking up one or two of them and giving them a wide whirl. The method has proved a very successful one and is just as successful with the standard steels as with the specialties. Bethlehem B and Crucible appear to be the favorites just at this time. Bethlehem B, under the influence of a heavy volume of orders, gained an additional 45 points yesterday, crossing the 110 mark before the profit-taking reaction commenced. The short interest in this stock, which has been holding out with the sole hope that the dividend might be reduced, is said to have received an unmerciful trimming and some shorts are facing large losses. The revival of the steel industry, the fact that Bethlehem's dividend is safe at the present rate and the additional news that with its shipbuilding industry going at full blast, Bethlehem's forthcoming financial report for the first six months of the year will be very favorable has created a situation that has brought many of Betty B's old-time friends back to her support."

Abbreviations.—A list of the abbreviations which appear most commonly on the financial page with the meaning in each case follows:

Bonds

- adj.—adjustment
- col.—collateral trust
- con.—consolidated
- cou. or coup.—coupon
- cv.—convertible
- deb.—debenture
- dividend period of payments: q—quarterly; s—semi-annually; a—annually
- div.—division
- ext.—extension
- f.—flat (interest included)
- gen.—general issue
- gtd.—guaranteed
- imp.—improvement
- inc.—income
- pr. ln.—prior lien
- r. e.—real estate
- ref.—refunding
- reg.—registered
- ser. A.—series A issue
- s. f. or sink. fund—sinking fund
- stpd.—stamped
- tax ex.—tax exempt
- unif.—unified
- 1st 4s—first mortgage 4 per cent bonds
- %s, 6s, etc.—indicating rate of interest
- '56—due in 1956

Stocks

- com.—common
- ctfs.—certificates

Stocks (Continued)

- ex. div.—without next dividend
- gtd.—guaranteed
- pf.—preferred
- ptc. pf.—participating preferred
- rts.—rights
- tr. ctfs.—trust certificates
- tr. rcts.—trustee or trust receipts
- vot. tr. ctfs.—voting trust certificates
- w. i.—when issued

CHAPTER XXV

SOURCES OF INFORMATION

Tools of investment.—Many channels of information are open to investors. The various reports which are referred to throughout the chapters may usually be obtained by letter of request addressed to the company. The numerous periodicals, particularly those which specialize in the financial field, contain general and specific information which is invaluable to the investment analyst. Moreover many firms make a business of compiling and publishing detailed information about all securities in which there is popular interest. These professional services include some, such as the Standard Statistics, which give simply the basic information; and others, such as Babson and Brookmire, which endeavor to advise precisely when and what to buy and sell. The operations of the latter class are in the realm of speculation rather than investment and are not discussed herein.

The professional services.—The four leading publishers of financial data, excluding the periodicals, are Standard Statistics, Moody's, Poor's, and Fitch. In addition are many others such as White and Kemble in the railroad mortgage bond field. Reference to the services of Babson, Brookmire, Harvard, and others of similar nature is omitted, as previously stated, because they are concerned chiefly with economic trends and market fluctuations rather than with investment analysis.

Standard Statistics Service.—The “Standard Statistics Services” are published by the Standard Statistics Company, 200 Varick St., New York City. The company has various services, the two of chief investment interests being the Standard Bond Descriptions and the Standard Corporation Record (Stock) Service.

The bond service is in two parts, the principal of which is composed of bond descriptions of individual 5x8-inch cards. Each bond issue has a separate card on which appears in brief form the important features of the issue. In addition to the cards, an auxiliary service is supplied in loose-leaf form, which gives a brief description of bond issues concerning which there is not sufficient interest to warrant a card classification. A bond bulletin sheet is provided at frequent intervals which keeps the information on the cards up to date; and also a sinking fund, redemption, and default sheets which states the current bond interest in default, the name and number of bonds called for redemption, proposals for the purchase of bonds for sinking-fund purposes, and recent bond underwritings.

The stock service follows closely the general plan of the bond service. Cards are issued covering corporations with active stocks and others are covered in printed sheets. Each corporation has at least two cards, report and bulletin, and those which have a considerable bonded indebtedness have a third, the bond card. The report card shows the income and balance sheet of the company as of the last date of issue and also for a series of preceding years, usually ten. It also contains a brief history of the company and the names of the officers and directors, and intercorporate relations. Other statistical information is given, varying from complete operating statistics of railroads to the equity behind the common stock of industrials. The bulletin card shows a summary of the funded debt, description of stock

SWIFT & COMPANY.

S 19

February 10, 1924.

Main Office—Union Stock Yards, Chicago, Ill. **Transfer Offices**—C. A. Peacock, Union Stock Yards, Chicago, Ill.; Old Colony Trust Co., Boston, Mass. **Registrars of Stock**—The Illinois Merchants Trust Co., Chicago, Ill.; New England Trust Co., Boston, Mass. **Annual Meeting**—First Thursday after the first Monday in January. **Chicago Stock Exchange Listed Security**—Also on Boston and Amsterdam Stock Exchange.

Capitalization

Note.—For details of Funded Debt and for authorized and outstanding amounts of capital stock, see Bulletin (White) Card.

Stock Increases Since Company's Incorporation.—Since the company's incorporation in March, 1885, the following increases in stock have been made: From \$300,000 (original) to \$3,000,000 in Dec., 1885; in June, 1888, to \$5,000,000; in Aug., 1890, to \$7,500,000; in April, 1893, to \$15,000,000; in Jan., 1899, to \$20,000,000; in Jan., 1902, to \$25,000,000; in Jan., 1904, to \$35,000,000; in Jan., 1908, to \$50,000,000; in Jan., 1909, to \$60,000,000; in Jan., 1911, to \$75,000,000; in Nov., 1916, to \$100,000,000; increased to \$150,000,000 on May 13, 1918. Of this last increase, \$25,000,000 was distributed as a 25% stock dividend on July 15, 1918, and \$25,000,000 offered shareholders of record May 13, 1918, at par.

High and Low Prices of Stocks.

(Chicago Stock Exchange)

	High	Low		High	Low		High	Low
1923	100%	93½	1915	128	104½	1907	118½	75½
1922	110½	91½	1914	107½	102	1906	119½	101½
1921	106	68½	1913	107½	101	1905	114	101
1920	133½	96	1912	109½	98½	1904	116	100
1919	149½	115½	1911	104	97½	1903	120½	99
1918	146	102	1910	100½	100	1892	177½	110
1917	135½	115½	1909	114½	100½	1901	103½	103½
1916	176	125½	1908	106½	86½			

Number of Stockholders, As of Jan. 1.

(The number of stockholders, as of Jan. 1 each year, was in excess of the numbers shown below.)

1924	46,000	1921	40,000	1918	20,000
1923	45,000	1920	35,000	1917	20,000
1922	45,000	1919	24,600	1916	21,000

Approximate Dividend Dates.

Dividend Meetings	Ex-Dividend	Dividends Payable
Nov. 23	Dec. 10	Jan. 2
Feb. 27	Mar. 10	Apr. 1
May 25	June 10	July 1
Aug. 26	Sept. 10	Oct. 1

Dividends Paid in Calendar Years Since Organization—

Years—	Capital Stock	Years—	Capital Stock	Years—	Capital Stock
1919-23	8%	1915	7½%	1889-94	8%
1918	18%	1899-1914	7%	1888	4%
1917	110%	1898	6½%		
1916	41½%	1895-97	6%		

*Including an extra dividend of 33½% paid Nov. 25, 1916.

†Includes an extra dividend of 2% paid Oct. 20, 1917.

‡Also a stock dividend of 25% paid July 15, 1918.

For any dividends paid during current calendar year, see Dividend Sheets.

10-Year Analysis of Income Account.

(Years Ending as Shown in "Comparative Income Account" on Page 2.)

	Total Sales	Net Income	Ratio of Net Income to Sales—%	Capital Stock—	Dividends Paid	% Earned	% Paid	Surplus for Year
1923	\$750,000,000	\$13,154,619	1.76	\$12,000,000	8.79	8	8	\$1,184,619
1922	1,650,000,000	13,045,217	2.91	12,000,000	3.70	8	8	1,045,217
1921	800,000,000	7,812,282	—	12,000,000	3.45	8	8	619,812,282
1920	1,109,000,000	6,170,883	0.47	12,000,000	—	8	8	619,829,617
1919	1,200,000,000	13,870,181	1.15	10,000,000	11.03	8	8	3,800,721
1918	1,200,000,000	21,157,277	1.74	9,000,000	12.90	8	12	1,157,277
1917	875,000,000	24,650,000	2.80	10,000,000	24.65	10	10	24,650,000
1916	575,000,000	20,465,000	3.56	9,000,000	27.29	8	8	14,465,000
1915	590,000,000	14,087,600	2.38	5,427,500	12.78	7½	7½	8,660,000
1914	425,000,000	9,450,000	2.21	2,250,000	12.60	7	7	4,200,000

*The annual reports for the several years stated that total sales were in excess of the amounts shown above.

(2) (A) (S-B) (This table continued on following page.)

STANDARD CORPORATION RECORDS.

Copyright, 1924, by STANDARD STATISTICS CO., Inc., 47-49 West St., N. Y.
This information, while not guaranteed, is believed to be correct.

issues, high and low prices, dividend record and current information. The bond card shows each bond issue in detail. The report cards are issued as often as the company issues new reports, usually about once a year. The bulletin cards are published more or less frequently according to the interest in the corporation's operations. The bond cards are changed only when there is a change in the funded debt.

The information on the cards is kept up to date by means of the daily publication of sheets containing news items concerning corporations. The information is afterwards segregated for the respective corporations and is reproduced on the next issue of the bulletin cards of the corporation. A binder is provided for filing the daily sheets which are reproduced in permanent, bound form later. Information on unlisted and local securities is given with the daily service. A daily and weekly dividend sheet is provided which shows the current dividend payments by the more important American corporations.

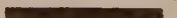
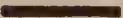
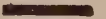
Moody's analyses of investments.—Moody's "Investors' Service" is published at 65 Broadway, New York, and is widely used by investors. The complete service includes regular bulletins, correspondence and consultation privilege, and rating books. These rating books are published annually and in addition to full information, statistics, and descriptive matter regarding corporations and securities, contain analyses of all statements and reports and assign definite ratings to each security. The rating books are published in four sections—railroads, public utilities, industrial and municipals, and can be separately purchased.

As may be noted in the accompanying graphic representation, the highest Moody rating is *Aaa* and the lowest is *D*. Ratings of *Aaa* and *Aa* indicate the highest ranking. Ratings *A* and *Baa*, the second highest. Bonds rated below *Ba* are

really outside of the investment field as is shown in the corresponding yields. The *Aaa* rating by Moody indicates what is believed to be the highest-type security.

The ratings are interesting and are widely used in the field, but the investment analyst uses them largely as a check against his own estimate.

MOODY'S BOND RATINGS
EXHIBIT OF VARIOUS EQUIVALENTS

Rating	Statistical Equivalents Yields	† Prices	Graphic Illustration Market-Values	Rating
Highest Group Bonds				
Aaa	5.25%	\$103.46		Aaa
Aa	5.80	96.07		Aa
Second Group Bonds				
A	6.24	\$90.72		A
Baa	7.02	82.21		Baa
Third Group Bonds				
Ba	8.43	\$69.66		Ba
B	e 9.48	62.16		B
Speculative Classes				
Caa	e 10.67 ad	e \$51.55c		Caa
Ca	e 12.00 ad	e 45.83c		Ca
C	e 13.50 ad	e 40.74c		C
Daa	e 15.19 ad	e 36.21c		Daa
Da	e 17.08 ad	e 32.20c		Da
D	e 19.22 ad	e 28.62c		D

(e) means estimated. (ad) means as if and when not in default. (c) means current yield, not to maturity. †The price equivalents are based upon a 5½ per cent 25-year bond.

Poor's Services.—Poor's Services are published by Poor's Publishing Company, 33 Broadway, New York City. This company is a consolidation of the Moody Manual Company and Poor's Railroad Manual Company.

Poor's and Moody's Manual Consolidated.—These Manuals are published annually and contain historical and

financial reports on both listed and unlisted securities. One volume is devoted to Steam Railroads; one to Public Utilities; and two to Industrials. A Government and Municipal Supplement accompanies the set.

Poor's Daily Digest Service.—This service issues daily sheets which cover items concerning corporations or their securities daily. This holds true whether the security is listed or unlisted, or whether it is stock information or bond information. In addition to daily sheets and cumulative pamphlets, there is included in this service a complete Dividend and Called-Bond Service.

Poor's Publishing Company also publish *Poor's Quotation Register*, which consists of high and low price ranges on over 9,000 securities. The price range dates back to 1913, thus giving pre-war prices for comparison.

Poor's Ratings.—Poor's Ratings are published by Poor's Rating Company semi-annually in hand-book editions. The companies are arranged in alphabetical order. The securities of a company are listed immediately under the name of the company. One column immediately opposite gives the rating of the security itself, while in the next column is a separate and distinct rating for the salability of the security. These books are issued every January and July and are kept up-to-date by monthly cumulative supplements. United States Government Securities are in a class by themselves. The highest class of corporation securities is rated *A****, followed by *A***, *A**, *A*, *B***, *B**, *B*, *C***, *C**, *C*, and so forth.

Fitch Services.—The Fitch Services are published by the Fitch Publishing Company, Incorporated, 138 Pearl Street, New York City. A summary of the services is given herein.

The Fitch Bond Book contains statistical descriptions of railroad, public-utility, industrial and foreign government

external dollar bonds. Each issue includes interest items, issuance data, formal items, special provisions, corporate data, analysis of security and earnings, market factors, together with the Fitch ratings. Ratings are developed in four principal groups—*A, B, C, D*. The “*A*” group is the highest and the “*D*” group the lowest. Each group has three sub-divisions indicating the rating position within the group, that is, *AAA, AA, A* indicate respectively, first, second, and third ratings in the “*A*” group. The *Fitch Bond Revisions* is issued weekly—the purpose of which is to keep the information in the Fitch Bond Book up-to-date at all times.

The *Fitch Bond Record* is issued weekly after the close of Tuesday's market and includes all bonds listed on the New York Stock Exchange. Each issue is listed separately with the following data—price range from 1906 to date, as well as price range for current year; Federal tax status; denominations; sales for week; interest rates; interest dates and maturity; call price; bid and asked quotations as of date published; last sale; income and yield based on last sale. Issues legal for savings banks in New York State are also indicated.

The *Fitch Issue Service* is primarily put up for the benefit of security salesmen. It is in loose-leaf, pocket-size form and contains a description of all classes of securities excepting common stocks, having an outstanding of \$1,000,000 or more. Municipal issues, however, are included which have an outstanding total of \$500,000 or more.

The *Fitch Listings of Investment Bankers and Brokers* is a directory of investment dealers throughout the United States and Canada. With each listing, the firm name and members are included—whatever exchanges they are members of—list of branch offices, class of securities dealt in and names of bond and trading department managers.

The *Fitch Stock Record* is issued weekly and gives quotation record and income values on the most active railroad and industrial stocks listed on the New York Stock Exchange.

White and Kemble Atlas and Digest of Railroad Mortgages.—A separate large size map is provided for each of the important American railroads. On each map the route of the railway is shown and the various mortgages holding liens upon the different sections of the road are indicated by colored symbols.

Each mortgage is numbered on the map and, in a digest attached, the principal features of the mortgage are outlined. The service is now offered in two forms. The older, or atlas, form consists of 18 x 15-inch sheets bound together in loose-leaf form. The newer, or cabinet, style provides each map in folder form, filed in a metallic cabinet. The folder form is more convenient for outside use but the information contained in the digest is much more brief. The atlas form provides an excellent statistical summary and analysis of the finances and operations of each road.

The Commercial and Financial Chronicle.—The dominant publication among the financial periodicals is the *Commercial and Financial Chronicle*, better known as the *Chronicle*. The writer knows of no other commercial field which has so satisfactory or so extensive an organ. The *Chronicle* is issued weekly, and is sold only to annual subscribers. To attempt to summarize the variety of investment information contained in the *Chronicle* would be a herculean task. It would not be far amiss to state that in its regular weekly section it contains practically every item of current interest in finance. The supplements issued at regular intervals deserve special mention, however.

The Monthly Earnings section is issued monthly. It contains, in summary form, monthly statements of revenues

and expenses for the preceding month of the present and preceding year for all the reporting companies.

The Bank and Quotation section is also issued monthly. It gives the latest quotations on practically all the active securities, whether listed or unlisted, in the United States market.

The Railway and Industrial and the Public Utility sections are issued semi-annually. They contain the latest reports of earnings, descriptions of bond issues, dividend payments, maps of the territories, and other information of interest.

The State and Municipal section is also issued semi-annually, although the two parts comprise a single annual section. Part I contains the New England, Middle and Central States, and Part II the remaining sections. Information is given concerning United States, Government bonds, State resources, debts, debt limitations, savings bank laws, and municipal resources, indebtedness and tax rates.

Other financial periodicals.—Other financial periodicals which contain interesting information concerning investments include the *Wall Street Journal* (daily), *Journal of Commerce* (daily), the *Annalist* (weekly), the *Financial World* (weekly), *Commerce and Finance* (weekly), *Barrens* (weekly), the *Bond Buyer* (weekly), *Forbes Magazine*, and the *Magazine of Wall Street* (semi-monthly).

Periodicals not devoted exclusively to finance but containing valuable information of financial interest include *Railway Age*, the *Electric Railway Journal*, *Petroleum Age*, *Iron Age*, and the *Electrical World*. The financial articles which appear in the popular magazines, especially the *Review of Reviews*, the *World's Work*, and the *Saturday Evening Post*, are both interesting and instructive.

The reader is cautioned against the information contained in "interested" publications; that is, the house organs issued

by dealers in securities. Not that all of these publications deserve censure—far from it—but the opinions stated are from interested rather than disinterested sources. In a great many cases, the information contained in these organs is not obtainable elsewhere.

The Mines Handbook.—This book is a yearly manual of the mining industry of the world. Although it is devoted chiefly to copper-mining companies, the work has been enlarged to cover the entire mining industry. The book is surprisingly complete considering the scope of the subject. Statistics are given showing the production of the principal metals, a disinterested report on each company, a glossary of mining terms, and a valuable list of obsolete mining securities.

Obsolete securities.—Information concerning obsolete securities may be obtained by reference to the two volumes published under that title. The first was issued in 1904 and the second in 1911. No attempt has been made to compile a revised list up to the present writing. The two volumes referred to may be obtained from the Babson Institute, Wellesley Hills, Massachusetts.

Foreign securities.—An excellent source of information concerning foreign securities may be had in the annual report of the Council of Foreign Bondholders issued by the Corporation of Foreign Bondholders, 17 Moorgate Street, London, England, and in the Investor's Four Shilling Year Book, issued by the *Financial Review of Reviews*, 2 Waterloo Place, Pall Mall, London, England.

Government publications.—Government publications which contain information of value to investors include the *Survey of Current Business*, the *Statistical Abstract*, Reports of the Secretary of the Treasury, Comptroller of Currency, the Federal Reserve Board and the *Federal Reserve Bulletin*. The reports of the banking departments and insurance departments of the various States are likewise valuable.

Corporate reports.—The great majority of corporations issue annual reports in printed form to stockholders. As a general rule, any interested party may secure a copy by writing to the company direct. These reports vary in scope from a brief résumé of the corporate activities without financial statements to a very complete record of the company's finances and operations. Under normal conditions this is the most trustworthy and convenient source of information and should be availed of if time permits.

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Jordan, D. F.

Jordan on investments.

DR. NORMAN A. WIGGINS

